The Care of Sick Children in Eighteenth-Century England

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

This thesis develops our understanding of childhood illness and care through an examination of the types of care which were provided to children who suffered from common diseases and conditions in the eighteenth century. My research establishes that domestic care remained the norm throughout the eighteenth century, even though institutional care grew both in terms of its scope and the numbers treated in this period. This study reveals that Newton's concept of 'children's physic' retained its importance in the domestic setting. The development of institutions did not radically change the manner in which children received care. Although there was a clear move towards paediatrics in institutions, particularly those which opened in the latter part of the century, children treated by the Foundling Hospital, metropolitan workhouses, and dispensaries often received out-patient care that allowed them to be treated within a domestic setting.

Approached through the prism of disease and disease categories, this thesis provides valuable insights into eighteenth-century views of health, childhood, and the body. The conditions examined in the thesis were diseases which regularly affected children during the eighteenth century. Childhood morbidity and mortality sometimes motivated medical experimentation on children. Through an examination of the care provided to children who suffered from certain conditions, and the experiments carried out upon them, the thesis provides a clearer understanding as to how children, their bodies, and the medical care that they required, were perceived during the eighteenth century. Aside from a focus on regimen, there was no standardisation in the care of sick children prior to the nineteenth century. The recommended regimen for children was linked to the non-naturals, placed an emphasis on moderation, and was designed with the maintenance and restoration of balance in mind.

An analysis of the care provided to sick children in the eighteenth century illuminates a period of incomplete transition from ‘children’s physic’ to paediatrics. Although the origins of paediatrics are usually located in the nineteenth century, this thesis argues that the increased interest shown in children’s diseases, and the experiments undertaken on children, demonstrate that the roots of paediatric care were laid in the eighteenth century.

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BLSC	Brotherton Library Special Collections
LMA	London Metropolitan Archives
NRO	Northumberland Record Office
TWA	Tyne and Wear Archives
WYAS	West Yorkshire Archive Service

Introduction

This thesis addresses the question of how children were cared for in eighteenth-century England, focusing predominantly on lower- and middle-class children. The type of care provided specifically to children in the eighteenth century depended both on who provided the care and treatment for the children, and upon various aspects of the individual child such as their age, gender or constitution. Children were not ignored, as was claimed by some eighteenth-century physicians.[1] Rather, children were visible patients both when treated within the home and in institutions, and whether cared for by their parents, a nurse, or a physician. Children were visible in medical texts and domestic receipt books, and their diseases were documented by a number of physicians. This rich legacy of material allows for a clear analysis of the care received by sick children in eighteenth-century England.

The eighteenth century is the focus of this study because it was a time of great change in medicine and in the ways in which sick individuals, including children, were treated. The number of institutions which provided medical care exploded, yet care continued predominantly to be provided within the home. Although the care of sick children in the eighteenth century did not become medicalised, it did start to become institutionalised. Children received medical care in dispensaries and workhouses, as well as in the Foundling Hospital. The surviving records of voluntary infirmaries also show that, despite rules which suggested otherwise, children were often admitted to these institutions. All the same, medical care for the sick still occurred predominately within the home. Care within the home was provided by parents who provided care for their sick

[1] George Armstrong, *An Account of the Diseases Most Incident to Children, from Their Birth till the Age of Puberty; With a Successful Method of Treating Them. To Which Is Added, an Essay on Nursing. Also a General Account of the Dispensary for the Infant Poor, from Its First Institution in 1769 to the Present Time* (London: T. Cadell, 1777), p. 3. Unless stated otherwise, all references are taken from this edition of the text.

children and made up their own remedies within the home. Other relatives, especially female ones, also contributed to the provision of care. The compilation and use of domestic receipt books developed rapidly in the seventeenth and eighteenth centuries, and the surviving sources from this time offer a unique insight into the methods by which children were cared for during this period.

Developments in care during the eighteenth century

The history of childhood medicine is a burgeoning area of study. This section examines both the history of childhood medicine and the relevant historiography attached to the subject. Alysa Levene has noted that the study of medical care for children has developed 'only in fits and starts'.[2] In response to Levene's assertion, Alice Mauger and Anne Mac Lellan, claim that 'very few studies have emerged on specific diseases of childhood, how they were treated and how they were perceived'.[3] This thesis aims to build upon existing work in the field of childhood medicine, and it is organised around the study of conditions and diseases that were prevalent among children in the eighteenth century, examining how the diseases were perceived and how they were treated in a variety of settings.

Throughout the eighteenth century, the prevailing view of health and healthcare came from the non-naturals, the naturals and the contra- or preter-naturals. These categories derived from Galen, but in the eighteenth century those using them were not drawing on Galen's writings but on the ideas and theories surrounding the categories. The naturals made up the constituents of the body, and comprised of elements, humours and

[2] Alysa Levene, 'Childhood and Adolescence', in *The Oxford Handbook of the History of Medicine*, ed. by Mark Jackson (Oxford: Oxford University Press, 2011), pp. 321–37, (p. 321).
[3] Alice Mauger and Anne Mac Lellan, 'Introduction: Contexts of Childhood Illness in Ireland', in *Growing Pains: Childhood Illness in Ireland 1750–1950,* ed. by Alice Mauger and Anne Mac Lellan (Co. Kildare: Irish Academic Press, 2013), pp. 1–18, (p. 3).

anatomical structures, whilst the contra-naturals, or the preter-naturals, were disease and its causes along with the effects of the disease.

The non-naturals are discussed at length within this study, as they were categories which the physicians of the eighteenth century were familiar with and believed in. They were aspects that were necessary to the maintenance of health, but if they were corrupted or became imbalanced in any way, they could cause disease.[4] There were six non-naturals, air, food and drink, motion and rest, sleep and waking, retentions and evacuations, passions of the soul and of the mind. The non-naturals had to be in balance for health to be maintained. The use of the non-naturals was, Vivian Nutton has remarked, 'the main therapeutic standby of the physician, supplemented by drugs, and occasionally, surgery'.[5] Many of the physicians identified within this study used the non-naturals as a way of maintaining and restoring health. The non-naturals were identified within physicians' treatises with the use of diet, air, exercise and purging often being used as part of regimens to restore health, in children as well as in adults. Cleanliness was another major theme in eighteenth-century understandings of illness. Cleanliness was often discussed in conjunction with the management of the non-naturals, both by Buchan and by later medical practitioners.

George Still, writing in 1965, argued that the seventeenth century saw a 'veritable rebirth of medicine' and that there had been a change in medicine and the understanding of medicine prior to the eighteenth century.[6] Still was a paediatrician and wrote his text from the perspective of a physician. Still highlighted developments in childhood medicine during the eighteenth century in particular. He stated that 'paediatrics in its widest sense

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[4] 'Non-Natural', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/128005> [accessed 6 February 2017].
[5] Vivian Nutton, 'Medicine in Medieval Western Europe, 1000-1500', in *The Western Medical Tradition, 800 BC to AD 1800*, ed. by Lawrence I. Conrad and others (Cambridge: Cambridge University Press, 1995), pp. 139–98, (p. 159).
[6] George Frederick Still, *The History of Paediatrics: The Progress of the Study of Diseases of Children up to the End of the XVIIth Century* (London: Dawsons of Pall Mall, 1965), p. 323.

had made great progress by the time the eighteenth century came to a close'.[7] Still's reasoning behind this comment was the belief that the lives of children were 'beginning to be appreciated as never before'.[8] He also highlighted that there was a development in the provision of child care for pauper children, with the opening of schools, workhouses and hospitals, during the eighteenth century.[9] In addition to his identification of change over time, Still acknowledged key works, such as those written by Cadogan, Buchan and Underwood, that were written during the seventeenth and eighteenth centuries in order to evaluate both the individuals responsible for the development of children's medicine and the junctures at which children's medicine changed.

More recently, Hannah Newton's *The Sick Child in Early Modern England, 1580-1720* focused on the provision of domestic medicine rather than the work of physicians. Newton raised several points of great importance in her book, the main argument of which was that children were fundamentally distinguished from adults both in their physiology and in their medical treatment.[10] Newton argued that the age of the child, rather than their gender, was the predominant influence over the medical treatment they received.[11] Due to the chronological framework of her study, from 1580 to 1720, Newton understandably focused on medical treatment that occurred within the home, or domestic medicine, but asserted that parents or carers distinguished between adult and child when providing medical care and treatment. Newton also contended that children, and the medicine they received, were defined by their humours. Children's humours were believed to be different from those of adults. Therefore, the medical treatment needed to balance the humours was different to that needed by adults. Newton explored seventeenth-century beliefs that 'these humoral qualities influenced the functioning of children's body parts,

[7] Ibid., p. 501.
[8] Ibid.
[9] Ibid., pp. 501–2.
[10] Hannah Newton, *The Sick Child in Early Modern England, 1580-1720* (Oxford: Oxford University Press, 2012).
[11] Ibid., p. 3.

as well as the inclinations of their minds and emotions'.[12] Newton's study differs from Still's in that it stresses the continuities in childhood medicine rather than the changes which took place prior to and during the eighteenth century. In contrast to Newton, Still emphasised the number of physicians who helped to develop children's medicine throughout the eighteenth century. Still argued that, prior to 1645, there was little new about childhood medicine, and that physicians were dependent upon the ancients for children's remedies and bodies.[13] He argued that 'writers on diseases of children, and indeed on medicine in general, up to this period [the seventeenth century], and for long afterwards, were occupied almost exclusively with the visible or tangible'.[14] But when, in 1645, Daniel Whistler completed his MD dissertation on rickets, written in Latin, childhood medicine began to change. Physicians such as Glisson, Mayow, Sydenham, Culpeper, and Willis developed childhood medicine.[15] Despite the identification of new medicines due to the discovery of the New World, Newton argued that 'the fundamental ways in which children's illnesses were perceived, treated, and experienced, remained relatively unchanged'.[16] Furthermore, Newton argued that the term paediatrics needed to be replaced by new terminology, because 'to use the modern term [paediatrics] would be to imply that there exists a universal concept of children's medicine, which is identical in all time periods'.[17] As a result, Newton coined the phrase 'children's physic' to characterise the medical treatment given to children prior to the emergence of the medical field of paediatrics in the nineteenth century. This thesis examines the period in which the movement from 'children's physic' towards paediatrics took place.

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[12] Hannah Newton, 'Children's Physic: Medical Perceptions and Treatment of Sick Children in Early Modern England, c.1580-1720', *Social History of Medicine*, 23:3 (2010), 456–74; Hannah Newton, '"Very Sore Nights and Days": The Child's Experience of Illness in Early Modern England, c.1580-1720', *Medical History*, 55:2 (2011), 153–82; Newton, *Sick Child*, p. 32.
[13] Still, *History of Paediatrics*, p. 182.
[14] Ibid.
[15] Ibid., p. 199.
[16] Newton, *Sick Child*, p. 8; Still, *History of Paediatrics*, p. 199.
[17] Newton, *Sick Child*, p. 2.

In his book *Physick and the Family, Health, Medicine and Care in Wales, 1600-1750*, Alun Withey corroborated Newton's observation that both parents cared for their children within the home.[18] Furthermore, Withey argued that this arrangement was relatively stable across the 150 years covered by his study, mirroring the continuity outlined by Newton. Withey's study does not focus specifically on the care provided to children, it examines broader, related themes of the family and community. He argued that much of the medicine provided during the early modern period could be made within the home from ingredients found in a well-stocked kitchen, and that more advanced medical remedies were made up, and experimented with, by men.[19] However, whilst Withey's text predominantly focused on continuity, he identified a change in the sick role. Patients undertook a sick role when sick, which changed over the course of the eighteenth century due to a 'fashioning of sickness, reinforced by the use of literacy in controlling self-image'.[20] Therefore, for Withey, the role of the sick changed throughout the eighteenth century, but the care that the patient received, within the home at least, remained largely static. Echoing Withey's assertion that medical care was undertaken in the home during the eighteenth century, Leigh Whaley has argued that women still provided the majority of the medical care within the home, as they had done since 1400.[21] Like Newton and Withey, Whaley emphasised the continuity of medical care throughout the early modern period. However, Whaley did argue that 'the professionalization of medicine had a detrimental impact on female practitioners', and suggested that male medical practitioners superseded female practitioners in the latter part of the early modern period.[22]

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[18] Newton, *Sick Child*, p. 105; Alun Withey, *Physick and the Family: Health, Medicine and Care in Wales, 1600–1750* (Manchester: Manchester University Press, 2011).
[19] Withey, *Physick and the Family*, pp. 101-2, 105.
[20] Ibid., p. 137.
[21] Leigh Whaley, *Women and the Practice of Medical Care in Early Modern Europe, 1400–1800* (London: Palgrave Macmillan, 2011).
[22] Whaley, *Women and the Practice of Medical Care*, p. 196.

In addition to the role of the parent, the role of the child as a patient, and the influence of parents and nurses over this function, has been discussed by Iris Ritzmann. Ritzmann's work focuses on the eighteenth century, but is based upon a discussion of German sources. Despite the geographical differences in their studies, both Newton and Ritzmann argue that children could not always be relied upon to tell the truth about their illnesses or even to adequately articulate what was wrong with them. Therefore, alongside the symptoms presented by the children, the children's nurses and mothers were important actors in the process of assisting sick children to gain medical treatment.[23] The mothers and nurses who spent the most time with the children were believed to be in the perfect position to provide physicians, or those treating the sick child, with the child's exact symptoms. Therefore, the mothers and nurses had important roles in the care of sick children throughout the early modern period.

During the second half of the eighteenth century there was an expansion in the number and type of institutions that provided medical care in England. These institutions, dispensaries, workhouses, voluntary hospitals and the Foundling Hospital emerged during the second half of the eighteenth century; the Foundling Hospital opened first, in 1741, and various hospitals and dispensaries opened between the 1740s and the 1770s. One of the earliest hospitals, or voluntary infirmaries, to open was the Northampton Infirmary, in 1744.[24] Many eighteenth-century hospitals refused to admit children, or any patient who suffered from infectious diseases. However, some, including the Northampton Infirmary, did admit children and those with infectious diseases. Williams found evidence in the admissions and discharge registers that a child with a fever was one of the first cases admitted to the Northampton Infirmary.[25] No age limits were set for

[23] Iris Ritzmann, 'Children as Patients in German Speaking Regions in the Eighteenth Century', in *Fashioning Childhood in the Eighteenth Century: Age and Identity*, ed. by Anja Müller (Aldershot: Ashgate, 2006), pp. 25–32; Newton, *Sick Child*.
[24] A.N. Williams, 'Four Candles. Original Perspectives and Insights into 18th Century Hospital Child Healthcare', *Archives of Disease in Childhood*, 92 (2007), 75–9, (p. 75).
[25] Ibid.

admission to the Edinburgh Royal Infirmary, and this hospital admitted many children. The youngest, according to Guenter Risse, was a child of just six months.[26] The admission records at Edinburgh also listed a number of mother and child admissions, showing that when mothers went into hospital their children often did too.[27]

The creation of institutions in the eighteenth century led to developments in medical care. Although theoretically barred from voluntary hospitals, children were among those who received medical care in these establishments. Previous work on healthcare in institutions has been carried out for English settings,[28] and for European locations.[29] Themes such as childhood mortality, diet, medical care and types of diseases suffered by children, and nursing care have been investigated in these works, showing that the care of sick children in institutions is a developing area of historical scholarship. Care was provided at Foundling Hospitals in Nuremberg, Amsterdam, Paris, Florence and Bologna, as well as in London, and a contemporary recognition of the need to protect and save vulnerable and abandoned children is a recurrent theme in discussions of

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[26] Guenter B. Risse, *Hospital Life in Enlightenment Scotland: Care and Teaching at the Royal Infirmary of Edinburgh* (Cambridge: Cambridge University Press, 1986), p. 87.
[27] Ibid., p. 86.
[28] David Allin, 'Foundling Hospital Children at Nurse in Hertfordshire in the Eighteenth Century', in *A Caring County? Social Welfare in Hertfordshire from 1600*, ed. by Steven King and Gillian Gear (Hatfield: University of Hertfordshire Press, 2013), pp. 207–33; Tanya Evans, *'Unfortunate Objects': Lone Mothers in Eighteenth-Century London* (Basingstoke: Palgrave Macmillan, 2005); Alysa Levene, Jonathan Reinarz and Andrew Williams, 'Child Patients, Hospitals and the Home in Eighteenth-Century England', *Family & Community History*, 15:1 (2012), 15–33; Alysa Levene and Kevin Siena, 'Reporting Dirt and Disease: Child Ill-Health in Seventeenth-and Eighteenth-Century England', *Journal of Literature and Science*, 6:1 (2013), 1–17; Alysa Levene, *Childcare, Health and Mortality at the London Foundling Hospital, 1741-1800: 'Left to the Mercy of the World'* (Manchester: Manchester University Press, 2007); Alysa Levene, *The Childhood of the Poor: Welfare in Eighteenth-Century London* (Basingstoke: Palgrave Macmillan, 2012); Carol Kazmierczak Manzione, *Christ's Hospital of London, 1552-1598: 'A Passing Deed of Pity'* (London: Associated University Presses, 1995); Ruth McClure, *Coram's Children. The London Foundling Hospital in the Eighteenth Century* (London: Yale University Press, 1981).
[29] Philip Gavitt, *Charity and Children in Renaissance Florence: The Ospedale Degli Innocenti, 1410-1536* (Ann Arbor, MI: University of Michigan Press, 1990); Rachel G. Fuchs, *Abandoned Children: Foundlings and Child Welfare in Nineteenth-Century France* (Albany, NY: State University of New York Press, 1984); Joel F. Harrington, *The Unwanted Child: The Fate of Foundlings, Orphans, and Juvenile Criminals in Early Modern Germany* (Chicago, IL: University of Chicago Press, 2009); Anne E.C. McCants, *Civic Charity in a Golden Age: Orphan Care in Early Modern Amsterdam* (Urbana, IL: University of Illinois Press, 1997); Julie Miller, *Abandoned: Foundlings in Nineteenth-Century New York City* (New York: New York University Press, 2008); Nicholas Terpstra, *Abandoned Children of the Italian Renaissance: Orphan Care in Florence and Bologna* (Baltimore, MD: Johns Hopkins University Press, 2005); Nicholas Terpstra, *Lost Girls: Sex and Death in Renaissance Florence* (Baltimore, MD: Johns Hopkins University Press, 2012).

Foundling Hospitals throughout Europe, and further afield, as argued by Harrington, Gerber and Evans.[30] The need for medical care in these institutions was identified early in their establishment, yet the types of medical provision differed in each institution.

The London Foundling Hospital has attracted the attention of Ruth McClure, Alysa Levene and Ashley Mathisen among others. These three historians examine the care provided to children at the London Foundling Hospital in the eighteenth century from different angles. In her analysis of the London Foundling Hospital, Ruth McClure included a chapter on ill health among children in the eighteenth century[31]. McClure pointed out that the health of the children in the Foundling Hospital was an important, if not the most important, aspect of the care the foundling children received. A number of preventative measures were employed by the governors of the Foundling Hospital, including separation, the destruction of infected clothing, fumigation, and the promotion of general cleanliness.[32] Furthermore, two forms of prevention were present within the Foundling Hospital that worked to ensure the health of the children. The first was that sick children were not admitted to the Foundling Hospital, a policy which prevented the spread of many diseases. The second, to prevent nurses smothering children whilst they slept, was brought in to protect the children from accidental deaths rather than infectious diseases.

McClure argued that children were cared for within the Foundling Hospital, and this provision extended to medical care. Food, clothing, shelter, and education were all provided for the foundlings, and the Governors 'ordered the children's days into a pattern that they believed would strengthen their characters and equip them for adult life'.[33] The children were provided with high quality medical care, although mortality rates remained

[30] Harrington, *Unwanted Child*; Matthew Gerber, *Bastards: Politics, Family, and Law in Early Modern France* (Oxford: Oxford University Press, 2012); Evans, *'Unfortunate Objects'*.
[31] McClure, *Coram's Children*, pp. 205–18.
[32] Ibid., p. 205.
[33] Ibid., p. 75.

high throughout the century. The diet of foundling children was important not just in England. In her study of the Foundling Hospital in Amsterdam, Anne E.C. McCants examined the diet the foundling children received as a way of determining the care provided to these children, and the attempts to keep them healthy.[34] The diet for the Dutch foundlings in the seventeenth and eighteenth centuries was good by the standards of orphanages and Foundling Hospitals of the time. However, McCants identified two periods in which the diet of the Dutch children became substandard, which led to more children dying than usual.[35]

Childhood mortality was high in the eighteenth century, particularly within institutions. The mortality rates for the Amsterdam Foundling Hospital were relatively low, perhaps in part as a result of the decent diet that the children consumed. Similarly, the mortality rates at the *Ospedale degli Innocenti* in Florence, Italy were relatively low, particularly in the seventeenth and eighteenth century.[36] According to Philip Gavitt, only Christ's Hospital in London had lower mortality rates than the *Ospedale degli Innocenti*.[37] In contrast, the mortality rates for the London Foundling Hospital were high, which was a cause for concern amongst the governors.[38] Whilst increases in mortality at the Amsterdam and Nuremberg Foundling Hospitals were linked to economic instability, Alysa Levene has asserted that the London Foundling Hospital blamed the state the children were in upon their admittance for the rates of mortality.[39] Levene has discussed the health of foundlings through an examination of mortality rates for illegitimate children in eighteenth-century England.[40] Her work demonstrates that death and illness were never

[34] McCants, *Civic Charity in a Golden Age*, pp. 40–62.
[35] Ibid., p. 47.
[36] Gavitt, *Charity and Children in Renaissance Florence*, p. 222.
[37] Ibid., p. 218.
[38] Levene, *Childcare, Health and Mortality*, p. 49.
[39] Ibid.
[40] Alysa Levene, 'The Mortality Penalty of Illegitimate Children: Foundlings and Poor Children in Eighteenth-Century England', in *Illegitimacy in Britain, 1700-1920*, ed. by Alysa Levene, Thomas Nutt, and Samantha Williams (Basingstoke: Palgrave Macmillan, 2005), pp. 34–49.

far away from Foundling children. Their living conditions meant that they were always susceptible to potentially fatal diseases, and witnessed death on a regular basis.

Although mortality rates for Foundling Hospitals were high, children did survive illness in Foundling Hospitals. In contrast to earlier studies of Foundling Hospitals across Europe, medical information is still available for the children who lived in the London Foundling Hospital during the eighteenth century. Levene used these records to make the diseases of eighteenth-century children in institutions understood in her study of the London Foundling Hospital.[41] Levene's study records the diseases that children suffered from in institutional care, but does not examine the types of medical care that was provided to the children. The same criticism can be made of Ruth McClure's text. Levene's chapter on childcare and health provides an overview of the illnesses from which children suffered, and the majority of her evidence was drawn from the Ackworth branch of the hospital. Extensive records which cover the health of the children at the Ackworth branch have survived, and Levene used these to chart the most common diseases from which children suffered and died, and included a limited amount of information on the disabilities the children suffered within the Foundling Hospital and its associated branches.[42]

Mathisen's thesis examined the ways in which poor children accessed medical care in the eighteenth century, with an emphasis on institutional care. She argued that 'the medical practitioner had a major role to play in understanding the bodies and diseases of children, and in ensuring their good health'.[43] Her analysis of the historiography shows a shift from the belief that diseases in history were conquered by great physicians to the social aspect of medicine, examining the patient and the physician, along with their

[41] Levene, *Childcare, Health and Mortality*.
[42] Ibid., pp. 145–76.
[43] Ashley Mathisen, 'Treating the Children of the Poor: Institutions and the Construction of Medical Authority in Eighteenth-Century London' (unpublished doctoral thesis, University of Oxford, 2011), p. 7.

relationship to each other.[44] Mathisen argued that the prevailing view of children being absent from institutional care is incorrect. Rather, children were cared for in a wide range of institutional settings, such as voluntary hospitals, as well as smallpox and venereal hospitals, lying-in hospitals and dispensaries. Mathisen argued that the encounters between physicians and children within these settings 'provided an expanded basis for re-thinking the nature of children's diseases and the possibilities for the medical treatment of children'.[45]

Experiments were undertaken on Foundling children within the Hospital, and also occurred beyond this setting. The children that were experimented on were poor, and therefore unlikely to protest at this experiment. Mathisen describes three experiments on poor children, two of which occurred in the Foundling Hospital, and the third, by George Armstrong at the Dispensary for the Infant Poor.[46] The experiments analysed by Mathisen which took place in the Foundling Hospital were the Powis Wells Water trials undertaken by Robert McClellan, an experiment with electricity by William Watson, and a hemlock trial at the Dispensary. The Foundling Hospital and the Dispensary for the Infant Poor were, therefore, institutions that provided medical practitioners with an ideal platform upon which to develop the medical care of children, which included undertaking medical experiments on children.[47] Within this setting the medical care took place without the assistance or interference of parents.[48] Physicians argued that children's health and bodies could only be fully understood when they were studied systematically, in controlled environments.[49] The Foundling Hospital's role in the development of the medical specialty of childhood medicine was a significant aspect of the institution, as important

[44] Ibid., p. 40.
[45] Ibid., p. 125.
[46] Ashley Mathisen, 'Mineral Waters, Electricity, and Hemlock: Devising Therapeutics for Children in Eighteenth-Century Institutions', *Medical History*, 57:1 (2013), 28–44.
[47] Mathisen, 'Treating the Children of the Poor', p. 163; Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 31.
[48] Mathisen, 'Treating the Children of the Poor', p. 164.
[49] Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 32.

as the care and treatment provided. The high visibility of children in all institutions, not just the Foundling Hospital, helped to bring childhood medicine to the fore and helped to encouraged physicians such as Cadogan, Buchan, Armstrong and Underwood to write books on the topic of childhood medicine.[50]

From its inception in 1741, the Foundling Hospital attempted to deal with disabled children, and the ways in which it did so changed over time out of necessity. Originally the children were housed in London, but in 1771 a decision was made to move all mentally and physically disabled children to Ackworth, a branch hospital of the Foundling Hospital in West Yorkshire.[51] Mathisen's more recent work on the Ackworth branch of the Foundling Hospital discussed the medical care provided to disabled children during the eighteenth century, and the importance of them being useful both to themselves and the community around them.[52] Children in the Foundling Hospital suffered from a variety of disabilities, including congenital and acquired, and even some diseases were listed in the records as disabilities. The Ackworth branch closed in 1773, which left the Foundling Hospital to find further alternatives to care for disabled children. The alternative care provided for disabled children included a change in the ways in which disabled children were apprenticed, and even led to some children remaining within the Foundling Hospital for the rest of their lives. Deaf children were taught to paint, whilst blind children were taught music, in an effort to enable these children to leave the Hospital. The Hospital had to adapt to a number of changes in the way it was run, along with changes in the ways children, and especially disabled children, were perceived.

Children were barred from accessing care in many institutions. Subscriptions were needed to access most dispensaries in England, with the exception of Bamburgh Castle

[50] Mathisen, 'Treating the Children of the Poor', pp. 7–9.
[51] Ashley Mathisen, '"So That They May Be Usefull to Themselves and the Community": Charting Childhood Disability in an Eighteenth-Century Institution', *The Journal of the History of Childhood and Youth*, 8:2 (2015), 191–210 (p. 193); Levene, *Childcare, Health and Mortality*, p. 145.
[52] Mathisen, '"So That They May Be Usefull to Themselves"', p. 193.

Dispensary, founded in 1772. Located in rural Northumberland, this dispensary catered for individuals of all ages and who suffered from all illnesses, although a certificate signed by a minister and two churchwardens was a requirement of entry.[53] Bamburgh and its surrounding district were too far from both Newcastle and Edinburgh, which, added to the number of shipwrecks and deaths in the area, led to Dr John Sharpe opening up a dispensary with hospital beds.[54] Withey argues that the Bamburgh Castle Dispensary was ahead of its time in both the ways it treated the sick and the ways in which it was stocked, arguing that the dispensary was full of the latest medical equipment, including the use of electricity machines.[55] The Bamburgh Castle Dispensary records contain the names and ages of its patients which has allowed an analysis of sibling and family groups seeking medical care. As Withey argued, children represented a sizeable minority in the institution.[56] The Bamburgh Castle Dispensary was different from the Newcastle Dispensary. The Newcastle Dispensary required subscribers, and its surviving records do not provide the age or names of its patients. Graham Butler examined the Newcastle Dispensary as part of his wider research on charity and medicine in eighteenth-century Newcastle, and advised that the records which remained from the Newcastle Dispensary consisted of the Dispensary's annual reports and disease tables.[57] Despite the limited detail of the records, Butler examined the types of patients that were treated in the Newcastle Dispensary and argued that the highest number of patients that were treated there were in the age group 1-10 years old.[58] Thus, the development of dispensaries,

[53] Alun Withey, 'Medicine and Charity in Eighteenth-Century Northumberland: The Early Years of the Bamburgh Castle Dispensary and Surgery, c.1772-1802', *Social History of Medicine*, 29:3 (2016), 467–89, (p. 483).
[54] Ibid., p. 467.
[55] Ibid., p. 477.
[56] Ibid., p. 487.
[57] Graham Butler, 'Disease, Medicine and the Urban Poor in Newcastle upon Tyne, c.1750-1850' (unpublished doctoral thesis, Newcastle, 2012), p. 150.
[58] Ibid., p. 158.

particularly those at Bamburgh Castle and Newcastle upon Tyne, were important aspects of child care in the eighteenth century.

In contrast to the infirmaries, no age limit or subscription barred entrance to the workhouse. Workhouses were present in England from the beginning of the Poor Law in the sixteenth century. However, workhouses that provided medical care largely developed from the 1740s onwards. During the latter part of the eighteenth century the workhouses expanded and medical wards were added, showing that medical care became a more prominent aspect of workhouse life in the last quarter of the eighteenth century.[59] The workhouse was a place of last resort, but often provided medical care that was unavailable elsewhere. Alysa Levene has investigated the number of children admitted to London workhouses and how they were cared for.[60] Children formed a large part of workhouse populations in the eighteenth century, and although Levene states that it was relatively rare for children to enter the house exclusively due to poor health, many children required medical care at some point during their stay.[61]

One of the most common diseases found in institutions such as the Foundling Hospital and workhouses was the itch, a skin condition that was infectious. Kevin Siena argued that this was a condition that was generally associated with poverty and sin. Siena linked the itch with the pox, syphilis, leprosy and scurvy, all conditions which indicated the moral character of the sufferer.[62] Little secondary literature has been produced on this topic outside of Siena's work, but the itch was a constant concern for the governors of the Foundling Hospital and workhouses. Siena's link with poverty and sin will be examined further in chapter five.

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[59] Levene, *Childhood of the Poor*, p. 113.
[60] Ibid., p. 109.
[61] Levene, *Childhood of the Poor*, p. 113, p. 120; Alysa Levene, 'Children, Childhood and the Workhouse: St Marylebone, 1769-1781', *The London Journal*, 33:1 (2008), 44–59, (pp. 44–6).
[62] Kevin Siena, 'The Moral Biology of "The Itch" in Eighteenth-Century Britain', in *A Medical History of Skin: Scratching the Surface*, ed. by Jonathan Reinarz and Kevin Siena (London: Pickering and Chatto, 2013), pp. 71–84, (pp. 73-4).

This thesis builds upon the work carried out by Newton and Ritzmann confirming that there was indeed an acknowledgement that children needed to be treated and cared for differently from adults throughout the eighteenth century. The development of institutions such as the Foundling Hospital, workhouses, dispensaries, and voluntary hospitals indicate that a change in the locations in which medical care could be accessed did occur during the eighteenth century, but this thesis argues that domestic medicine remained an important aspect of childhood medicine throughout the eighteenth century. As Ashley Mathisen argued, there was a long arc of transition from the early eighteenth century, where there was little medical involvement in the treatment of children, to the rise of paediatric medicine in the nineteenth century. The eighteenth-century physicians discussed in this thesis played a crucial role in the development of paediatrics, but they were by no means the sole reason why medical care for sick children changed over time.

This thesis contends that Newton's concept of a seventeenth-century 'children's physic' can be extended from the close of her study in 1720 to the end of the eighteenth century. 'Children's physic' was the precursor to paediatrics, which developed in the nineteenth century. As Mathisen has suggested, the physicians who attended children in eighteenth-century institutions were the forerunners of paediatric physicians. The care of children developed as a result of the medical experiments on diseases such as smallpox, whooping cough, and skin conditions that these men undertook. However, this thesis argues that prior to the nineteenth century the development of children's medicine was confused rather than systematic, and that standardised practices had yet to emerge.

Both Mathisen and Levene have focused primarily upon institutions, and have concentrated upon the care of children in London. This thesis extends the scope of their work in two ways. First, it enlarges the geographic scope of their investigations by examining the records of institutions across England. Second, and most significantly, this thesis argues that, despite the emergence of institutional care in the second half of the

eighteenth century, the home remained the predominant location in which sick children were treated. By structuring the analysis around the study of the diseases children suffered from in the eighteenth century, rather than the locations in which they were treated, this thesis allows us to see how children were treated both in theory and in practice, and how care was provided both in the home and in the emerging institutions. Unlike Newton and Levene's work, this research has not examined the emotions attached to sick children in the eighteenth century. Instead, this study focuses more narrowly on the care provided to those who suffered from some of the eighteenth century's most common diseases. The research presented here argues that physicians and surgeons provided a wide range of remedies for these conditions, which demonstrates that there was no standardisation in the treatment of sick children in eighteenth-century England. Each child was considered as an individual and provided with individualised care.

Sources

The main sources which provide evidence about the care of the sick child in the eighteenth century can be divided into five broad types: manuscript domestic receipt books; published domestic receipt books, which included writings by Nicholas Culpeper and John Wesley; the writings of medical practitioners, which can be subdivided into two categories, the published medical treatises and the manuscript casebooks; the surviving records of institutions such as the Foundling Hospital, dispensaries, workhouses and infirmaries; and the Bills of Mortality. All of these five types of sources are different, and taken together they provide a wealth of evidence as to how sick children were cared for in a variety of settings during the eighteenth century.

Domestic receipt books were functional texts frequently found in the early modern house.[63] As Rebecca Laroche argued, these resources were owned and used by women throughout the early modern period, and can therefore give an indication of medical authority during this period.[64] Two types of domestic receipt books were written by women, printed (and published), such as those by Mary Kettilby, Martha Bradley and Hannah Woolley; and manuscript receipt books that were never intended for publication, but which survive and can be found in the Wellcome Collections, such as Mrs Meade's book, and A Book of Phisick.[65] Both types of these domestic receipt books are used in this research. Manuscript collections also consist of individual recipes collected together over the years, but these types of collections are not examined as part of this research. In addition, texts written by men such as Nicholas Culpeper and John Wesley are also included here. These men were not physicians, but their texts were intended for domestic use. Therefore, when discussing domestic receipt books, this research focuses on purpose-written books.

Printed receipt books published by authors such as Mary Kettilby, Martha Bradley and Hannah Woolley were written to assist women with everyday life, including how to care for the family when sickness occurred, and how to cook and provide a nutritious diet.[66] In the case of Martha Bradley's book, caring for animals and gardening were also

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[63] Michelle DiMeo and Sara Pennell, 'Introduction', in *Reading and Writing Recipe Books, 1550-1800*, ed. by Michelle DiMeo and Sara Pennell (Manchester: Manchester University Press, 2013), pp. 1–24, (p. 3).
[64] Rebecca Laroche, *Medical Authority and Englishwomen's Herbal Texts, 1550-1650* (Farnham: Ashgate, 2009), p. 2.
[65] Wellcome Library, MS.3500, Meade, Mrs. & others, 1727; MS.1320, A Book of Phisick, 1710.
[66] Mary Kettilby, *A Collection of above Three Hundred Receipts in Cookery, Physick and Surgery for the Use of All Good Wives, Tender Mothers, and Careful Nurses. By Several Hands.*, 1st edn (London: Printed for Mary Kettilby, 1714); Martha Bradley, *The British Housewife Or, the Cook, Housekeeper's, and Gardiner's Companion. ... Containing a General Account of Fresh Provisions ... a Bill of Fare for Each Month, ... Receipts ... To Which Are Annexed, the Art of Carving; ... And a Variety of Other Valuable Particulars, ... Embellished with ... Copper Plates, ...* (London: Printed for S. Crowder and H. Woodgate, 1760); Hannah Woolley, *The Accomplish'd Lady's Delight in Preserving, Physick, Beautifying, and Cookery: Containing, I. The Art of Preserving and Candying Fruits & Flowers and the Making of All Sorts of Conserves, Syrups, and Jellies. II. The Physical Cabinet, Or, Excellent Receipts in Physick and Chirurgery ... and Also Some New and Excellent Secrets And experiments in the Art of Angling. III. The Compleat Cooks Guide, Or, Directions for Dressing All Sorts of Flesh, Fowl, and Fish, Both in the English and French Mode, with All Sauces and Sallets*, ed. by Anna Edgson (London: Printed for B. Harris, 1675); Hannah Woolley, *The Queen-like Closet, or Rich Cabinet: Stored with All Manner of Rare Receipts for*

included, showing the wide range of activities in which women were involved during the eighteenth century.[67] Authorship of printed receipt books by women is problematic, as although we know that, for example, Mary Kettilby's text was written by her and published on her behalf, we do not know for certain the authorship of other texts. Authors of medical texts openly used remedies from physicians. Sometimes these recipes were referenced, sometimes they were not. A male editor or family member may also have altered these texts. There is also the possibility that men wrote some of these texts, but placed a woman's name as author, to make them more appealing to women. While recognising these complexities, this study will refer throughout to the named author of each text.

The manuscript domestic receipt books that are used in this thesis, such as 'A Book of Physic' and 'Mrs Meade's Book', were written by women for the use of themselves and other family and community members. Different hands in these books show that they were passed around between family and community members.[68] As Elizabeth Lane Furdell and Alisha Rankin both note, it was down to the woman of the house to ensure that the sick were cared for, and to save on the bills from apothecaries and physicians, thus these types of books were deemed to be a necessity for women who were able to read.[69] The receipt books often included the name of an author, or a family, such as 'Mrs Meade's Book', or the 'Sheldon Family Book'. However, many texts of this type did not include an author.[70]

Preserving, Candying and Cookery: Very Pleasant and Beneficial to All Ingenious Persons of the Female Sex. To Which Is Added, A Supplement Presented to All Ingenious Ladies, and Gentlewomen, 5th edn (London: Printed for R. Chiswel ... and T. Sawbridge, 1684).

[67] Bradley, *British Housewife*.

[68] Elizabeth Lane Furdell, *Publishing and Medicine in Early Modern England* (Rochester, NY: University of Rochester Press, 2002), p. 97.

[69] Furdell, *Publishing and Medicine*, p. 96; Alisha Michelle Rankin, *Panaceia's Daughters: Noblewomen as Healers in Early Modern Germany* (Chicago, IL: University of Chicago Press, 2013), p. 11.

[70] Michelle DiMeo, 'Authorship and Medical Networks: Reading Attributions in Early Modern Manuscript Recipe Books', in *Reading and Writing Recipe Books, 1550-1800*, ed. by Michelle DiMeo and Sara Pennell (Manchester: Manchester University Press, 2013), pp. 25–46, (p. 27).

The diseases and conditions listed in these books were the same as those listed in physicians' treatises and in the casebooks of physicians who practised medicine during the eighteenth century. The main difference between these receipt books and the physicians' treatises is that manuscripts do not record diagnostic evidence, which shows an assumed knowledge. For example, in 'A Book of Physic', a treatment for whooping cough was presented without any discussion of how to diagnose whooping cough. In treatises by Cadogan, Armstrong, Buchan and Underwood, a description of how to diagnose whooping cough was presented prior to the remedy. Alun Withey has argued for a 'knowledge bank' in which medical recipes travelled through families and communities, probably orally at first, before being written down. These recipes were written down and changed, added to, and deleted, depending on the individuals using them.[71]

The ingredients named in manuscript receipt books were all common plants and herbs that could be found in any garden, whereas physicians included more elaborate and exotic ingredients. In addition to the medical receipts that are present in this type of source, cookery recipes are also present. The inclusion of cookery recipes in receipt books shows the link between cookery and physic, and how women had a single book in which to write their various recipes. Often, cookery recipes were at the front, with physic at the back. Many of the same ingredients, utensils and methods were used when creating food and physic during the eighteenth century.

In addition to domestic receipt books, a number of texts were published by men who were not university-trained physicians but were perceived as respectable authorities on medical matters by virtue of their gender. Nicholas Culpeper (1616-1664) and John Wesley (1703-1791) provide two examples of this type of medical writer. Culpeper had

[71] Alun Withey, 'Crossing the Boundaries: Domestic Recipe Collections in Early Modern Wales', in *Reading and Writing Recipe Books, 1550-1800*, ed. by Michelle DiMeo and Sara Pennell (Manchester: Manchester University Press, 2013), pp. 179–202, (p. 187).

received some medical training by way of an apprenticeship with an apothecary, but he does not appear to have undertaken a medical qualification.[72] In 1644, Culpeper established his own medical practice in London. He wrote his *Physical Directory* in 1650. His *Complete Herbal* was first published in 1653.[73] Many of Culpeper's remedies begin with the words '[this plant] is so well known, it needs no description', indicating that Culpeper was using ingredients that were familiar to everyone who had access to a garden. Culpeper also added an element of astrology to his Complete Herbal, rather than using the more common non-natural theories.[74] Although a seventeenth-century writer, Culpeper's texts went through many editions, and were used throughout the eighteenth century.

John Wesley was a preacher and the founder of Methodism. In 1747, Wesley opened a free dispensary and in the same year wrote *Primitive Physick.* Not medically trained himself, Wesley generally disagreed with educated physicians, except on the importance of the non-naturals. Wesley's book contains an interesting combination of medical remedies and domestic receipts. He was mocked for his inclusion of many folk remedies within the text, but he also deferred to medical authorities for a number of his remedies.[75] Wesley's text incorporated many herbal remedies that were made using accessible ingredients, particularly those from the garden. Prior to the fourteenth edition of his text, printed in 1770, Wesley mentioned children only briefly. In these earlier editions, he commented on their needs for various diseases, and discussed cold bathing in the final four pages of his text. Cold bathing was believed to cure young children of a

[72] Nicholas Culpeper, *Culpeper's Complete Herbal* (Ware: Wordsworth Editions, 1995), p. xi. The 1995 edition of this text is used throughout the thesis.
[73] Patrick Curry, 'Culpeper, Nicholas, (1616-1654)', *Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004).
[74] Curry, 'Culpeper, Nicholas'.
[75] Henry D. Rack, 'Wesley, John (1703-1791)', *Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004).

variety of conditions including convulsions, coughs, scabs, rickets, and vomiting.[76] But from the fourteenth edition Wesley included a section on children that remained in the book until it went out of print.[77] The year in which the fourteenth edition was published may be important in the context of this change. The fourteenth edition was published in 1770, one year after the first edition of William Buchan's *Domestic Medicine* and the opening of George Armstrong's Dispensary for the Infant Poor in London. The inclusion of a separate section on children in Wesley's own work may have been a response to this growing professional interest.

Medical texts on children's diseases and health written by university-trained physicians such as William Cadogan, George Armstrong, William Buchan, Nicholas (Nils) Rosen von Rosenstein and Michael Underwood offer an insight into the professional medical sphere of the eighteenth century, and often provide a contrast to the domestic receipt books. These texts focused on domestic medicine, on the family and children, and were designed to be used within the home. In addition, other authors write about individual diseases, such as whooping cough, fevers, smallpox and skin conditions. The dates at which medical texts about specific conditions were first published is also noteworthy: they often, although not always, followed an outbreak of the disease under discussion or an increase in its frequency, and their existence demonstrates that childhood medicine became an area of medicine deemed worthy of their consideration by male physicians. For example, the number of treatises on smallpox increased after the 1720s, when inoculation was first brought to England, and increased in number once again after the Suttons began experimenting with the inoculation procedure in the 1760s.

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[76] John Wesley, *Primitive Physick: Or an Easy and Natural Method for Curing Most Diseases*, 5th edn (Holborn: Thomas Trye, 1755), p. 119. In addition, cold bathing was to prevent the growth of hereditary apoplexies, asthma's consumptions, King's-Evil, palsies and stone. Cold bathing was also believed to cure asthma, ague, blindness, dropsy, hectick fevers, welling on the joints, tetanus, and nervous conditions.
[77] John Wesley, *Primitive Physick: Or an Easy and Natural Method for Curing Most Diseases*, 14th edn (London: W. Pine, 1770), p. 46.

William Cadogan (1711-1797) was a physician at Bristol Royal Infirmary and from 1747 a governor at the London Foundling Hospital.[78] Cadogan was very concerned with the ways in which children were cared for, particularly those in the Foundling Hospital. In 1748, Cadogan wrote to the governors of the London Foundling Hospital on the subject of how children should be reared. The recommendations in the letter, which were adapted by the Foundling Hospital, were published in the same year as an *Essay upon Nursing and the Management of Children from their Birth to the Third Year of Age*.[79] Cadogan's *An Essay upon Nursing* went through at least ten editions throughout the eighteenth century, showing its popularity and suggesting that the book was used by people outside of the Foundling Hospital in an attempt to protect the lives of their own children. The start of the essay highlighted the number of children who died before they reached the age of five years.[80] Cadogan's aim, he stated, was to offer a way of caring for children which did not lead to half of all children dying by the age of five.[81] He wrote that 'children in general are over-cloath'd, over-fed and fed and cloath'd improperly'.[82] Cadogan's text provided the nurses and governors of the Foundling Hospital with a new and improved way to provide care for the foundlings.

George Armstrong (1720-1789) was a London-based physician who focused on the health and wellbeing of children during the eighteenth century. Armstrong published his first text, *An Essay on the Diseases Most Fatal to Infants*, in 1767. In this book, Armstrong argued that the care of children, including their medical care, had been left to old women, nurses and midwives because many physicians refused to treat infants.[83]

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[78] Norman Moore, 'Cadogan, William (1711-1797)', rev. Anne Digby, *Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004).
[79] William Cadogan, *An Essay Upon Nursing, and the Management of Children, From Their Birth to Three Years of Age*, 5th edn (London: J. Roberts, 1757).
[80] Ibid., p. 6.
[81] Ibid., p. 9.
[82] Ibid.
[83] George Armstrong, *An Essay on the Diseases Most Fatal to Infants: To Which Are Added Rules to Be Observed in the Nursing of Children, with a Particular View to Those Who Are Brought up by Hand* (London: Printed for T. Cadell, 1767), p. 3.

Armstrong argued that this view was wrong, because although children could not tell a physician what was wrong with them, medical care could and should still be provided to them.[84] One of the primary aims of Armstrong's text was to show parents that they needed to seek out physicians to provide medical care to their children rather than rely upon nurses, midwives or old women.[85] Armstrong opened the Dispensary for the Infant Poor in London on 24 April 1769 and, although the dispensary was not open for long, the experiences he gained from the treatment of poor and sick children informed Armstrong's second book. Armstrong added the reports of his dispensary to both editions of his second text, *An Account of the Diseases Most Incident to Children, with a General Account of the Dispensary for the Infant Poor*. In the preface, Armstrong claimed that he had wanted to write a second edition of his first text, but most of the diseases he wanted to discuss were relevant to children rather than infants. However, he did include an essay on nursing.[86] Armstrong's two texts had different layouts as well as different emphases. The first was written as an essay, whilst the second was structured predominantly by disease. Armstrong claimed in his *An Account of the Diseases Most Incident to Children* that he did not use theory in his text, but that every remedy and medicine that he included had been 'deduced solely from practice'.[87] Unlike other physicians of the eighteenth century, Armstrong's focus was solely on the care of sick children, particularly poor, sick children. Armstrong's work is a vital part of this research as he was a working physician, and his *General Account of the Dispensary for the Infant Poor* provides an unparalleled window into how a trained physician performed medicine during the second half of the eighteenth century.

William Buchan (1729-1805) began his medical career at the Ackworth branch of the Foundling Hospital. In 1769, he wrote his *Domestic Medicine*. A second, and

[84] Ibid., p. 4.
[85] Ibid., pp. 7–10.
[86] Armstrong, *Account of the Diseases Most Incident to Children*, p. v.
[87] Ibid., p. vii.

markedly different version of the text was published three years later. Between the first edition in 1769 and the final edition, published in America in 1871, Buchan's *Domestic Medicine* was printed in 142 English language editions and translated into French, Spanish, Portuguese, Italian, German, Russian and Swedish.[88] Buchan argued in the preface to his text that by writing a domestic medicine book, he would receive the 'resentment of the whole faculty'.[89] Buchan used his experience of working for the Foundling Hospital in his writing, and drew upon his time at Ackworth in the Nursing and Management of Children section of *Domestic Medicine*. Buchan's employment at the Ackworth Foundling Hospital afforded him the opportunity to try out different methods both of nursing and of the treatment of diseases that were common to the children at Ackworth.[90] Furthermore, Buchan acknowledged that his observations of skin conditions and cleanliness at Ackworth helped prove that cleanliness was an important aspect of childhood medicine in the eighteenth century. Buchan argued for the importance of regimen in his text, and claimed that people 'lay too much stress upon medicine, and trust too little in their own endeavours'.[91] Buchan wanted his text to be as accessible as possible, and to do this he included the 'most simple and approved forms of medicine, and added such cautions and directions as seemed necessary for their safe administration'.[92] Buchan intended his text to be used within the home rather than just by practising physicians, and he aimed to present as simple a discussion of illnesses and treatments as possible.

The work of Swedish physician Nicholas (Nils) Rosen von Rosenstein (1706-1773) was translated into English in 1776, three years after his death. Like Buchan,

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[88] Christopher Lawrence, 'Buchan, William (1729-1805)', *Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004).
[89] William Buchan, *Domestic Medicine Or, a Treatise on the Prevention and Cure of Diseases by Regimen and Simple Medicines*, 7th edn (London: D. Graisberry, 1781), p. v.
[90] Ibid., p. vi.
[91] Ibid., p. viii.
[92] Ibid., p. x.

Rosenstein hoped that *The Diseases of Children and their Remedies* would be of use to the general public as well as to other physicians. The translator, Andrew Sparrman, MD, attempted to ensure that the terminology and remedies were kept as simple as possible. As Rosenstein's work was translated from the original Swedish, there are problems with the text which are common to all translated works. However, as Sparrman was himself a trained physician, the medical aspects of Rosenstein's work are unlikely to have caused confusion. In addition to the English translation, Rosenstein's text was also translated into German and French. Rosenstein's work focused upon illness and disease outbreaks in Sweden, but its translation enabled it to influence physicians in eighteenth-century England. Rosenstein's description of a scarlet fever outbreak in Uppsala in 1741 built upon Thomas Sydenham's accounts of a scarlet fever outbreak some 65 years earlier. No outbreak of scarlet fever was recorded in England at the time that Rosenstein was writing about the outbreak in Uppsala, but this does not mean that no outbreak occurred.

Michael Underwood (1726-1820) published his text *A Treatise on the Diseases of Children* in 1784. A second edition was published in 1789, a two-volume third edition in 1793, and a fourth edition in 1797.[93] Underwood claimed to rely on the 'indulgence of the public' with regards to the success of his text, and like Buchan and Rosenstein he ensured that he wrote the book as plainly as possible. 'For the sake of public utility', he wrote, 'the writer has carefully avoided all technical terms'.[94] Underwood placed the impetus for children's health and medical care with the parent who accessed and used the book. He added that if the instructions were not sufficient, the disease was probably past their management.[95] Like the other physicians discussed here, Underwood identified and was concerned by a lack of interest in the diseases of infants. He argued that 'the

[93] Still, *History of Paediatrics*, p. 476.
[94] Michael Underwood, *A Treatise on the Diseases of Children, with General Directions for the Management of Infants from the Birth* (Philadelphia, PA: Printed by T. Dobson, 1793), p. vi.
[95] Ibid.

destruction of infants is eventually the destruction of adults' thus, children needed to be cared for to ensure they grew into useful and productive adults.[96]

Physician William Brownrigg (1712-1800) and surgeon William Hey (1736-1819) were contemporaries, and practised medicine in different parts of the country. William Brownrigg was a physician in Whitehaven in Cumbria, whilst Hey practiced in the Leeds area. Both travelled to see their patients, and Hey was also a surgeon at the Leeds General Infirmary, and treated his patients in this institution. Both kept casebooks, and whilst Hey's remain in manuscript form, Brownrigg's have been translated from their original Latin and published. The translators of his casebooks, Ward and Yell suggest that these texts were perhaps the beginnings of a textbook rather than his legitimate casebooks as 'it is obvious that this Casebook is only an abstract from his daily records of some of his most interesting cases, and these tend to be grouped together according to the particular conditions'.[97]

William Hey's casebooks are handwritten notebooks held in the Brotherton Library Special Collections, at the University of Leeds. These casebooks were written chronologically, and include a variety of patients, diseases and conditions which Hey treated. Hey noted much information about his patients, including his child patients, although only the name of the parent or master of some patients is given. Hey included the precise nature of the illnesses from which his patients suffered, in his records, along with his recommended remedies. Hey's detachment from his patients is shown in particular by his 1767 description of a case of smallpox. In his casebook, Hey noted only that Peggy, aged 14, was hot, restless and thirsty, and suffered from a possible case of smallpox. Peggy also happened to be Hey's daughter.[98]

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[96] Ibid., p. 4.
[97] William Brownrigg, *The Medical Casebook of William Brownrigg, M.D., F.R.S. (1712-1800) of the Town of Whitehaven in Cumberland*, ed. by Jean E. Ward and Joan Yell (London: Wellcome Institute for the History of Medicine, 1993), p. xv.
[98] Leeds, Brotherton Library Special Collections (BLSC), MS 1991/1/2, William Hey, Notebooks of Medical and Surgical Case Histories (1763-1809).

These sources show the considerations which Brownrigg and Hey deemed to be especially significant. The size and constitution of their patients were most important, and only occasionally did they note the ages, demonstrating that the age of a child was not as important in the treatment as the size and constitution. The casebooks provide a clear outline of treatment provided to sick children, with often hourly updates on their conditions, showing how medicine was conducted in the eighteenth century.

The surviving records of the Foundling Hospital involve a variety of documents, including, but not limited to: the Berkshire Correspondence, the Ackworth Infirmary Records, the London Hospital Infirmary Records, the Powis Wells Water trials, and the Nurse records. All of these records are housed in the London Metropolitan Archives (LMA). The Berkshire Correspondence records deserve special mention here. The files contain all of the correspondence between the nurses and inspectors for the London Foundling Hospital in Berkshire. All children who were out at nurse in the Berkshire area were under the care of a nurse, and each nurse was under the supervision of an inspector. The health and safety of the Foundling children was a priority. The Berkshire Correspondence has been transcribed and published by Gillian Clark, and the published text has been used for this research rather than the original material.[99] Clark's publication contains only the transcriptions of the sources, with no further analysis by Clark, other than in the introduction. The original LMA reference number has been cited, along with the reference in Clark's book, wherever this material has been drawn upon in the thesis. Clark's book begins with an outline of how and why the Foundling Hospital came about and provides pertinent information regarding the nursing system employed by the Hospital, particularly within Berkshire.

[99] Gillian Clark, *Correspondence of the Foundling Hospital Inspectors in Berkshire, 1757-68* (Reading: Berkshire Record Society, 1994).

All other material from the London Foundling Hospital has been consulted at the LMA, and is recorded with the original file reference. The Foundling Hospital sources are limited as survival rates for the records of the institution's early years are partial. The majority of the records are handwritten and in a state of considerable disrepair. The registers of children admitted to the Hospital, sent to the branch hospitals, and admitted to the Infirmaries have survived, but the records of the actual treatments that the children received within the Hospital Infirmaries have not survived. The Ackworth records are more complete than those from the London Hospital and have been used in depth for this study. The records show the different diseases that were recorded as present at Ackworth, and allow for comparisons to be made between events at Ackworth and in London. However, the medical registers of the Ackworth branch were compiled monthly rather than weekly. Therefore, these sources do not permit a direct comparison of the prevalence of illnesses within the two hospitals.

Although not as complete as the records produced at Ackworth, the London Foundling Hospital Infirmary's medical register is also utilised for the purpose of this study. This document contains a register of each sick child present in the Infirmary, and was compiled on a weekly basis. The frequent updates of the register provide a detailed account of how many Foundling children were sick from a disease at any given time. However, despite its utility, the register also presents some problems. When attempting to ascertain how many children were affected by the itch in any given month, for example, the weekly records do not note how many of the children had been in the infirmary the previous week. Therefore, it is impossible to distinguish between new cases and those who had undergone prolonged treatment, with clear restrictions for the utility of quantitative analyses of the data.

In addition, this study uses records from other branches of the Foundling Hospital. A list of children who suffered from whooping cough, measles and smallpox at the

Chester branch hospital is a document that is used in this research, although the reasons behind the production of this document were not noted.[100] Exactly where this document was written is not made clear in either the document itself or the accompanying catalogue. No explanation is given for the focus on these three diseases, but it seems likely that these were the diseases deemed worthy of reporting for the children of the Chester branch hospital.

A number of documents related to the experiments undertaken by apothecaries Robert McClellan and William Watson have survived, and two chapters of this thesis draw upon these experiments. McClellan experimented with skin conditions, whilst Watson experimented with the smallpox inoculation regimen. The two documents that outline the experiments and their outcomes differ; McClellan wrote his findings in a notebook by hand, whereas Watson printed and published his records. McClellan's handwritten records contain a number of personal details of the children involved, including their names, ages, the length of time for which they had been ill, and from which of the many recognised skin conditions they suffered. Detailed descriptions of the children, their illnesses, and their constitutions were also included. McClellan's notes identified which children left the experiment early as a result of other illnesses, and detailed the successful and unsuccessful outcomes for each child. None of this detailed information was included in the surviving records of Watson's smallpox trials. Despite these differences, the two sources point to the ways in which children needed to be treated, and how this treatment came about.[101] Furthermore, both texts demonstrate that the Foundling children were used in medical experiments, likely without their knowledge or consent. The Foundling Hospital was in *loco parentis* for these children. Moreover,

[100] London, London Metropolitan Archives (LMA), A/FH/D/04/004, Register of Children with Diseases Suffered, Chester, 1763.
[101] LMA, A/FH/A/18/009/001, Apothecary's notes (in English) on treatment with the use of Powis Wells Water, 1759-1762; William Watson, *An Account of a Series of Experiments, Instituted with a View of Ascertaining the Most Successful Method of Inoculating the Small-Pox* (London: J. Nourse, 1769).

governors of the Foundling Hospital commissioned the experiments in the first place so it is unlikely they would refuse to allow the apothecaries to use the children as subjects.

Alongside the documentary evidence provided by the Foundling Hospital, institutional records from dispensaries, workhouses, and infirmaries are used in this thesis. The records produced by the dispensaries of Newcastle upon Tyne and Bamburgh Castle are strikingly different, especially when it is considered that they were open at the same time, had similar aims, and were located in relatively close proximity to one another in the north-east of England. The surviving records of the Newcastle upon Tyne dispensary only include summaries of information such as admissions and discharges, whereas the records for the Bamburgh Castle dispensary are in their original state and the admissions and discharge registers are present. The registers from Bamburgh Castle include the name, age, area or origin of each individual patient and the disease from which they suffered. In addition, the length of time the patient had been sick before they made contact with the dispensary for care was noted, as was the date of discharge and the method of discharge (cured, relieved, or died). The records of the Newcastle dispensary are not as detailed, and few individuals are identified. However, the numbers of patients discharged relieved, cured, or died, and the diseases from which patients suffered have survived, so it is possible to use the sources in comparison with the records from Bamburgh Castle.

The reports on the Dispensary of the Infant Poor in London, established by George Armstrong, have also been utilised for this study. In the second edition of his *Account of the Diseases Most Incident to Children*, Armstrong discussed an experiment he had conducted to treat whooping cough using hemlock. In a similar vein to the Founding Hospital experiments, Armstrong undertook his hemlock trials on the poor children who attended his dispensary for medical care. The original notes from the experiments have

not survived, which means that Armstrong's own narrative account is the only available record for the experiments which took place at the dispensary.

Bills of Mortality were frequently used by physicians and governments to identify outbreaks of particular diseases in the early modern period, especially the plague. The Bills of Mortality were produced from the early seventeenth century by the London Company of Parish Clarks. In addition to London, Bills of Mortality were set up in other areas of the country such as Chester and Newcastle. For the purposes of this research, published summaries of the Bills by A. Millar and Haygarth have been used.[102] Millar's Bills provide an overview of the years between 1657 and 1758, and include both diseases and a breakdown of the deaths in each of the London parishes. For this thesis, Millar's summaries are augmented by those published by Dr John Haygarth on the Chester Bills of Mortality in the 1770s.[103] The Bills of Mortality in London and Chester offer a record of the numbers of deaths attributed to specific diseases during the eighteenth century, and provide an insight into the ways in which diseases were identified and grouped together during the period. For the purposes of this research the Bills of Mortality, and the summaries by Millar and Haygarth, are useful both for the identification of childhood diseases and the number of individuals who died from those diseases in any given year. However, as John Landers has argued, the Bills of Mortality are of limited value because they were far from comprehensive in their scope; they were limited in terms of their geographical coverage, their treatment of non-conformist burials, and in the 'negligence' of their Searchers of the Dead.[104] Landers used the term 'negligence' in reference to the Searchers of the Dead because they had to inspect a dead body and report their findings

[102] A. Millar, *A Collection of the Yearly Bills of Mortality from 1657-1758 Inclusive, Together with Several Other Bills of an Earlier Date* (London: Printed for A. Millar, 1759).
[103] J. Haygarth, 'Observations on the Bill of Mortality, in Chester, for the Year 1772', *Philosophical Transactions of the Royal Society of London*, 64 (1774), 67–78; J. Haygarth, 'Observations on the Population and Diseases of Chester, in the Year 1774', *Philosophical Transactions of the Royal Society of London*, 68 (1778), 131–54.
[104] Richelle Munkhoff, 'Searchers of the Dead: Authority, Marginality, and the Interpretation of Plague in England, 1574-1665', *Gender & History*, 11:1 (1999), 1–29.

back to the Parish Clarks, who listed the death in the Bills of Mortality. The Searchers played an important role in reporting the cause of death, but Landers felt accuracy was compromised by their lack of medical training.[105] Richelle Munkhoff identified Searchers of the Dead as women on the margins of society who undertook the work to gain a pension or poor relief.[106] An article by Munkhoff has argued these women often had considerable experience both of caring for the sick and acting as Searchers of the Dead. Will Slauter examined the Bills of Mortality as a form of publication, and suggested that the public used the Bills for different purposes than the government. Public health and ease of travel were important to the public, and the Bills helped them to understand the events that occurred in terms of death and disease, as well as geography.[107] Despite the limitations of the Bills of Mortality, they are useful for this study in a number of ways. First, they help to establish the language used by contemporaries about diseases and how this terminology changed over the course of the period under consideration. Second, the Bills of Mortality occasionally grouped diseases together, which can tell us which diseases were thought to be similar or related. Third, the Bills of Mortality can give an indication of when epidemics occurred, and which diseases caused particular concern during the eighteenth century.

The types of material used by this study complement each other, and show a wide range of ways in which care was provided during this period. The domestic receipt books provide an overview of care that was provided within the home. The development of institutional treatment is an important aspect of care in the eighteenth century, hence the records of a range of institutions, such as the Foundling Hospital, dispensaries and workhouses have been examined. The Bills of Mortality give an indication of the types

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[105] Wanda S. Henry, 'Women Searchers of the Dead in Eighteenth- and Nineteenth-Century London', *Social History of Medicine*, 29:3 (2016), 445–66, (p. 446); Richelle Munkhoff, 'Poor Women and Parish Public Health in Sixteenth-Century London', *Renaissance Studies*, 28:4 (2014), 579–96, (p. 586).
[106] Munkhoff, 'Poor Women and Parish Public Health'.
[107] Will Slauter, 'Write up Your Dead', *Media History*, 17:1 (2011), 1–15, (p. 12).

of diseases that were prevalent during this period, and complement the infirmary and dispensary records to show periods of epidemics or outbreaks of major interests of physicians during this period. The medical texts, together with these sources, offer a range of perspectives on the care of sick children in eighteenth-century England.

Thesis

This thesis is divided into six chapters, five of which deal with specific conditions which were prevalent amongst children during the eighteenth century: smallpox, fevers, whooping cough, skin conditions, and rickets and scurvy. Whilst these conditions were by no means exclusive to childhood, many of them, such as smallpox and whooping cough, often struck whilst the patient was young and provided immunity from further outbreaks of the disease thereafter. This thesis focuses on diseases and illness as a way of building upon existing scholarship. Newton examined the care provided to sick children within the home during the seventeenth century, whilst Levene focused exclusively on the care provided within the Foundling Hospital. Mathisen examined the Foundling Hospital alongside other medical institutions and considered the ways in which the children were treated rather than diseases. This thesis examines how children who suffered from these specific diseases and conditions were cared for within the home and in institutions. Mathisen has demonstrated that the eighteenth century witnessed an emerging interest in the general medical care of children, whereas this research addresses the specific medical care provided to those children who suffered from some of the century's most common childhood diseases.

Chapter one, entitled Childhood, health and healthcare, outlines understandings of childhood health during this period. The perceptions of child health are important to examine as these understandings lay the foundations for the care sick children received throughout the eighteenth century. This chapter explores who provided care and evaluates

the ways in which children's bodies were perceived in medical terms. During the eighteenth century it was believed that children required care that was different to that of adults, and this chapter shows that children received treatments that were designed specifically with the child's body in mind. This chapter also reflects on the changing nature of the care provided to sick children over the course of the century, and the move towards the availability of a more diverse range of medical care at the end of the period. It demonstrates that, whilst more care was undertaken within an institutional setting by 1800 than had been the case one hundred years earlier, the vast majority of medical care for children was still provided within the home and administered by family members.

Chapter two focuses on smallpox. Smallpox was a disease that largely, although not exclusively, affected children. Even survival of the disease brought with it its own problems. Severe scarring and even blindness were side effects of the disease, and this chapter argues that survival was not the sole aim of those who attempted to develop inoculation processes during the eighteenth century. The dispensaries at Newcastle upon Tyne and Chester both acknowledged the role which children played in the family economies of poorer households, and made attempts to help the children of the poor survive the disease. Experiments undertaken by the Suttons in Essex, and in the London Foundling Hospital, were concerned both with shortening the inoculation process and in the prevention of scarring and disability in those who were inoculated.

Chapter three examines the treatment provided for fevers, as fevers of all types affected children. Fevers were a common ailment in the eighteenth century, and were listed in institutional registers both as condition in themselves, and as symptoms of another disease. Scarlet fever was a specific type of fever which was often associated with children. An increase in the literature on scarlet fever occurred during the 1770s, and many physicians of the period considered scarlet fever to be a disease of childhood. The infectious nature of fevers was noted during the eighteenth century and, particularly in

institutions such as the Foundling Hospital and workhouses, isolation was used to prevent the spread of the disease. The establishment of specialist fever hospitals in the late eighteenth century demonstrates that there was a move away from medical care within the home for fevers before 1800, although fevers were still treated within the home well into the nineteenth century.

Chapter four analyses whooping cough, and the care provided to children who suffered from this disease. This chapter identifies several treatises that dealt exclusively with whooping cough, and investigates the outcomes of George Armstrong's experiments which used hemlock as a treatment for the disease. This chapter argues that Robert Watt's assertion, in 1813, that whooping cough was an ignored disease is incorrect, and that it was, in fact, an important and well-studied condition throughout the second half of the eighteenth century.

Chapter five examines skin conditions, including the itch, scald head, and the king's evil. Like many of the conditions discussed in this thesis, skin conditions were relatively common in the eighteenth century among children. The itch and scald head were not conditions that caused death, but they needed to be treated both because they were infectious and in order for children to undertake apprenticeships later in life. These conditions were rife in the Foundling Hospital infirmaries, due to conditions and the proximity of patients. Kevin Siena's study of the itch argues that contemporaries associated the condition with leprosy and syphilis. The disease was considered to be linked closely to sin and poverty. Skin conditions were often a barrier to apprenticeship, as a master did not want a child with a condition that could flare up again in the future, nor did they want an apprentice with scars covering their hands and faces. Nor, as Siena argued, did they want an apprentice who was associated with poverty and sin. This chapter will also discuss an experiment using Powis Wells Water in an attempt to cure various skin conditions which was undertaken at the London Foundling Hospital.

Chapter six discusses rickets and scurvy. Rickets was a disease that was exclusive to childhood, but despite archaeological evidence which suggests that it was prevalent during the eighteenth century, few medical tracts written about it. Physicians understood the skeletal changes that occurred with rickets, but the medical treatment for this disease was limited when compared to the treatments available for other diseases discussed in this work. Scurvy was better understood, largely due to the experiments conducted by James Lind. However, Lind's experiments were linked to sailors, whilst children and land-based scurvy were excluded from his research. Scurvy produced more literature than rickets, but scurvy in childhood was mostly ignored. This chapter argues that rickets was identified and treated, but did not gain the same attention as many other conditions which affected children. Secondary literature suggests that scurvy in childhood could have been confused with teething, but the primary sources show that this misdiagnosis was not common.

Taken together, these chapters demonstrate that the care of children in eighteenth-century England was a burgeoning field of study among physicians. However, these university-trained men did not break new ground by writing about and providing treatment to sick children. Instead, they began to encroach upon what had been, and continued to be throughout the century, a sphere of care that was centred upon the home and the women whose responsibilities remained the provision of care to the family as a whole.

Chapter 1: Childhood, health and healthcare

Throughout the eighteenth century, there was no single prevalent view of children, child health and healthcare in England. Physicians held a range of different opinions about children and children's bodies, and these views sometimes contrasted with those of the family. This chapter addresses four principal questions regarding children, child health and healthcare in eighteenth-century England. First, it will discuss how childhood was understood in the eighteenth century, and the ways in which children were thought of throughout the period. Second, it will look at the ways in which childhood health was understood, and how the understanding contributed to the treatment of children in domestic and institutional settings. Third, this chapter examines which factors were perceived to affect the health of children, and analyses how those factors differed between professional and domestic medicine. Finally, this chapter investigates how the provision of medical care for children changed over the course of the eighteenth century. This period saw the emergence of institutional medicine for children, but domestic medicine remained a staple ingredient of children's healthcare throughout the century despite the introduction of institutions. The care of sick children is also examined through the lens of those who provided care. Physicians and apothecaries often provided a diagnosis and a remedy, and the simple act of asking a physician for help could be termed care. Female members of the family and community, or female nurses in institutions, provided the bulk of the medical care for children in eighteenth-century England, although fathers and other male family members provided care when necessary.

1.1: Understandings of childhood in the eighteenth century

During the eighteenth century, childhood was understood as a component of the life cycle, although the terms with which it was defined differed. The phase of childhood

was, as Peter Borsay has argued, 'something constantly subject to changing external pressures, as the political, economic and social system of which it is part alter[ed] and reformulate[d]'.[1] Alysa Levene argues that the eighteenth century was a 'watershed in feelings about childhood', and that the treatment of children during this period was a judgement on society.[2] There was, therefore, a moral aspect to the care of children. A society which treated its children well was a good society, one which treated its children badly was not. This change in family relations and attitudes towards children helped bring about a change in how childhood was understood and treated.[3] Therefore, children were cared for during the eighteenth century and valued as a specific part of the family. This section focuses upon how childhood was understood in the eighteenth century, and the extent to which understandings changed over time. The terminology of childhood will be examined, along with age ranges provided by contemporaries and historians. Variables such as class, gender, employment, and the age at which young people were legally entitled to participate in life events will be examined to determine the terms by which childhood was understood during the eighteenth century, and the extent to which ideas shifted over the course of the period.

Age ranges relating to infancy, childhood and youth were acknowledged in the eighteenth century. In contemporary medical texts, the terms 'infant', 'child', and 'youth' were fluid and interchangeable, and there was little or no note made of the ages at which these boundaries changed. Griffiths argues that there was a suggestion amongst historians that the concept of youth did not exist in the early modern period, and that contemporaries juggled with childhood, adolescence, youth and adulthood, often mixing up the

[1] Peter Borsay, 'Children, Adolescents and Fashionable Urban Society in Eighteenth-Century England', in *Fashioning Childhood in the Eighteenth Century: Age and Identity*, ed. by Anja Müller (Aldershot: Ashgate, 2006), pp. 53–62, (p. 63).
[2] Levene, *Childhood of the Poor*.
[3] Levene, 'Children, Childhood and the Workhouse', p. 42.

boundaries of each age group and sometimes dismissing them altogether.[4] But these elisions, Griffiths claimed, were due to the fact that histories of childhood have been written from a modern perspective. In fact, the experiences of the young and children can still be identified, thus showing that childhood was viewed as a distinct phase of life during the eighteenth century.[5] Ben-Amos argues that as age ranges during the early modern period were largely fluid, it is difficult to pin down age ranges for certain.[6] Hannah Newton has given the most detailed examples and justifications for age ranges in the early modern period.[7] Newton argues that the phase covered by the term 'child' began at birth, and lasted until the onset of puberty at about the age of fourteen or fifteen. Yet, the term 'infant' was also frequently used in the early modern period, and Newton claims that this term referred to individuals from birth up until the ages of around six or seven.[8] Levene's age ranges are similar, although not exactly the same as those provided by Newton. In her work on the London Foundling Hospital and workhouses, Levene's age ranges for children extended to the age of thirteen. However, Levene's choices may have been shaped by her use of statistical analysis.[9] Mendelson and Crawford also used infancy and childhood interchangeably, and when discussing the differences between boys and girls they argued that 'male infants were usually weaker and sicklier than their female siblings'.[10] Allied to that insight, Mendelson and Crawford noted that 'childhood might end early for the most disadvantaged girls … typically around 7 or 8 years of age'.[11] The early termination of childhood was more often the result of class rather than gender. Children of the lower classes often had to become apprenticed earlier than their better-off

[4] Paul Griffiths, *Youth and Authority: Formative Experiences in England, 1560-1640* (Oxford: Clarendon Press, 1996), p. 17.
[5] Ibid.
[6] Ilana Krausman Ben-Amos, *Adolescence and Youth in Early Modern England* (New Haven: Yale University Press, 1994), p. 11.
[7] Newton, *Sick Child*, p. 8.
[8] Ibid.
[9] Levene, *Childcare, Health and Mortality*; Levene, 'Children, Childhood and the Workhouse'.
[10] Sara Mendelson and Patricia Crawford, *Women in Early Modern England, 1550-1720* (Oxford: Clarendon Press, 1998), p. 83.
[11] Ibid., p. 86.

counterparts for financial reasons. Therefore, whilst there may have been age ranges that were generally accepted in the early modern period, class and the economy were two factors that could overrule age boundaries.

Although viewed as a life phase, childhood was not rigidly enforced for children during the eighteenth century. Age boundaries were flexible, to allow children to work when family circumstances dictated the need. Infants up to around the ages of six or seven were too young to work, and were not put to work. Whilst records for the pauper apprentices for the Halifax Borough Poor in Yorkshire suggest that apprenticeships typically began between the ages of 12 and 14, exceptions could be made. In one case, an orphan child was apprenticed at the age of six.[12] Although it is unlikely that the child would have been put to work full-time at the age of six, the child would have been expected to work as and when required by their master. Consequently, at an age when most left infancy and entered childhood, for this child the period of childhood was over.

During childhood, children did small chores around the house. Although unpaid, it was seen as an element of training for the future. Girls worked alongside their mothers and boys with their fathers.[13] Children up to the age of 16 were listed separately in the records of St Mary Lambeth workhouse.[14] Sixteen was generally thought to be at the end of the childhood bracket, and it was unusual if children at that age in the workhouses had not been apprenticed out by the parish. Workhouses sought to keep children, who were considered to be amongst the deserving poor, away from the undeserving poor, adults who did not want to work. It would have been cheaper for the workhouse to have apprenticed the older children out, as well as providing the children with the opportunity to work. However, as children often ran away from apprenticeships, or entered

[12] Calderdale, West Yorkshire Archive Service (WYAS), OR:88, Pauper Apprentices, 1802-1832.
[13] Deborah Simonton, 'The Economy', in *A Cultural History of Childhood and Family in the Age of Enlightenment*, ed. by Elizabeth Foyster and James Marten (London: Bloomsbury, 2014), pp. 49–68, (p. 49).
[14] LMA, P85/MRY1/2/80, Register of Children.

workhouses due to illness, the workhouse register is not necessarily representative of the ages of childhood in the eighteenth century. The London Foundling Hospital bound its children to apprenticeship at around the ages of eleven or twelve, in line with other pauper apprenticeship schemes. The beginning of an apprenticeship effectively ended the childhoods of the foundlings.[15]

Young adulthood, or youth, was the time at which individuals became more, but not entirely, independent. Youth was traditionally the time at which individuals entered the workforce. Youth's often entered the workforce via an apprenticeship. Domestic service (mostly for girls) and apprenticeships (for boys) were seen as 'natural' steps towards adulthood.[16] Apprenticeships did not last for a set amount of time, and Snell argues that the amount of time an individual spent in apprenticeships began to decline from around 1740 onwards. With individuals spending less time in apprenticeships, they were generally able to gain their economic independence, and their adulthood, earlier.[17] Typically, individuals were under contract with their master until the age of 24 for males and the age of 21, or until marriage, for females.[18] Thus, young women theoretically ended apprenticeship and legally became an adult at a younger age than young men. The main factors which influenced the move from one age range to another were less often an individual's age, more often the social status and economic situation of the family.

Childhood was clearly viewed as a life phase by contemporaries. From the middle of the eighteenth century in particular, childhood was also identified as a life phase in medicine, although Boerhaave distinguished childhood diseases in his *Aphorisms*, first

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[15] Alysa Levene, '"Honesty, Sobriety and Diligence": Master-Apprentice Relationships in Eighteenth-and Nineteenth-Century England', *Social History*, 33:2 (2008), 183–200, (p. 185).
[16] Griffiths, *Youth and Authority*, p. 27.
[17] K. Snell, *Annals of the Labouring Poor: Social Change and Agrarian England, 1660-1900* (Cambridge: Cambridge University Press, 1985), pp. 234–8.
[18] 'Background - Apprenticeship Indentures and Disciplinary Cases (IA) - London Lives', *London Lives, 1690 to 1800 - Crime, Poverty and Social Policy in the Metropolis*, 2012 <https://www.londonlives.org/static/IA.jsp> [accessed 24 March 2016].

published in 1709. Physician William Buchan divided his *Domestic Medicine* into several sections, including one for childhood diseases, and one on raising children and the maintenance of their health.[19] Buchan included sections on children in his text from the very first edition, although the mentions of children and their illnesses were slightly different in subsequent editions. In all editions, Buchan discussed children's clothing, food and exercise. His air section was entitled 'bad effects of unwholesome air', and his section on nurses, 'the faults of nurses'. Buchan did not raise the effects of diseased or bad parents in the contents page of his first edition in the way that he did in the second edition and onwards. His focus in the first edition was on the faults of nurses, rather than the faults of parents. The importance of good parenting was something Buchan only emphasised in later editions.[20] From the fourteenth edition of his *Primitive Physick*, John Wesley added in a section on childhood, which was not present for the first thirteen editions of his text.[21] Wesley did not explain why he added this section to his text in 1770. Yet in the earlier editions of his text, a section at the back gives directions on why children needed cold baths, suggesting that he acknowledged that there were aspects of childhood that needed to be noted. The inclusion of a section on childhood medicine indicates that Wesley fully acknowledged that childhood was a distinct phase of life, in line with other physicians of the time.

George Armstrong agreed that childhood was a phase of life in itself, and the Dispensary for the Infant Poor, which he opened in 1767, was specifically for children. Armstrong gave no age ranges for the children he treated, but used the upper age of fourteen in his texts.[22] As was mentioned in the introduction, Armstrong produced two texts, the first specifically for infants, entitled *An Essay on the Diseases Most Fatal to*

[19] William Buchan, *Domestic Medicine Or, a Treatise on the Prevention and Cure of Diseases by Regimen and Simple Medicines*, 1st edn (Edinburgh: Printed by Balfour, Auld, and Smellie, 1769).
[20] Ibid.
[21] Wesley, *Primitive Physick*, 14th edn.
[22] Armstrong, *Account of the Diseases Most Incident to Children*.

Infants, and the second, *An Account of the Diseases Most Incident to Children*. The essay on infants was published first, in 1767; the text for childhood diseases followed in 1777, with a second edition published in 1783. The purpose he gave for writing *An Account of the Diseases Most Incident to Children* was that, upon updating his *Infants* text, Armstrong realised that what he wanted to say related to older children rather than infants. Thus, Armstrong clearly acknowledged prior to 1777 that older children were in a different phase of the life cycle to infants, that their bodies were different, and that they therefore required different treatments.

In addition to medicine, childhood was recognised in legal terms. Parents and guardians had control over their children, including over issues of marriage and inheritance. The legal ages for marriage differed between boys and girls. Legally, a girl could be promised in marriage at the age of seven, but the marriage could not be consummated at this time. At the age of nine, a girl was entitled to a dower, and by the age of twelve she had reached maturity according to civil law.[23] At this age, girls could consent to marriage; for boys, the age of consent was fourteen. Inheritance laws also noted the age of a child when the parent died. If a parent died before the child was twenty one, a guardian was appointed. But, at the ages of twelve and fourteen for girls and boys respectively, the guardian was only responsible for the maintenance of the inheritance, not to act as a parent.[24] Therefore, whilst children could not receive their inheritance prior to the age of twenty one, they did have some say in their relationship with a guardian. Childhood did not end at one set age throughout the eighteenth century.

Understandings of childhood were present throughout the eighteenth century, but differed according to gender and class. Contemporaries saw children as occupying a

[23] Anna-Christina Giovanopoulos, 'The Legal Status of Children in Eighteenth-Century England', in *Fashioning Childhood in the Eighteenth Century: Age and Identity*, ed. by Anja Müller (Aldershot: Ashgate, 2006), pp. 43–52, (p. 47).
[24] Ibid., p. 48.

unique place in the lifecycle that was different from adulthood. Infancy, childhood and youth were all points in the lifecycle, but the length of time which individuals spent in these positions depended largely upon family circumstances rather than the age of the individual. Socio-economic circumstances could end childhood earlier for poorer children, whilst the childhoods of the upper classes could last into adulthood. Age was important in some aspects of life, particularly with regards to marriage and inheritance. Whilst ages for inheritance were less likely to have had an impact upon the lower classes of society, the age at marriage had a significant impact upon the lives of children, thus reinforcing the status of children in the eighteenth century.

1.2: Understandings of child health in the eighteenth century

Children and their health were discussed by medical practitioners and by the authors of domestic receipt books during the eighteenth century. From the late 1740s, physicians began writing texts on the management and health of children and their treatment.[25] The importance of the humours and non-naturals was clearly shown in the many textbooks written by physicians throughout the eighteenth century. In addition, physicians made specific comments about children's bodies and often included separate sections on child health in their texts. In some cases, physicians only differentiated between adults and children in the prescription of some remedies. In such cases, either the remedies or illnesses were acknowledged to affect adults and children's bodies differently. In addition to remedies and illnesses affecting children's and adult's bodies differently, childhood health was understood through the link between the child and the adult carer. A child was thought to be predisposed to ill health if a parent or nurse was

[25] Adrianna S. Benzaquén, 'The Doctor and the Child: Medical Preservation and Management of Children in the Eighteenth Century', in *Fashioning Childhood in the Eighteenth Century: Age and Identity*, ed. by Anja Müller (Aldershot: Ashgate, 2006), pp. 13–24, (p. 13).

unhealthy or immoral. If a parent or nurse was healthy, and a child became ill, questions were asked as to how this had occurred.

When treating a child patient, medical practitioners such as Buchan, Armstrong, Hey and Brownrigg, recorded their size and constitution, demonstrating the importance of these factors in understandings and of child health in the eighteenth century. The age of the patient was often, but not always, recorded. Size and constitution, rather than age, were often noted when individual children were discussed in physicians' casebooks, and the importance of these factors was identified in physicians' textbooks, where the constitution of the child was often the first comment when remedies were recommended. Thus, the age and gender of a child were less likely to have influenced the care provided.

Although childhood health had been understood, discussed and written about since antiquity, the ways in which it was understood, with regards to the humours and non-naturals, has led Benzaquén to suggest that childhood medicine lagged behind developments in other aspects of medicine during the eighteenth century.[26] This section explores the ways in which child health was understood in the eighteenth century, examining the visual aspect of medical care and its importance, along with the understandings of age and size in medical care. It will also show that child health and medicine did not lag behind other aspects of medicine during the eighteenth century, as suggested by Benzaquén, but rather that the eighteenth century was a time of significant developments in childhood medicine and care.

Contradictory ideas about the inherent weakness of children prevailed in the eighteenth century. Children were generally thought of as weak during the period, and attempts were made to address these weaknesses and build the strength of children. The term 'weak' was used by several contemporary physicians. The seventeenth-century

[26] Ibid.

midwife Jane Sharp noted that if children were to be swaddled, it had to be done gently. The limbs needed to be bound straight, or they would become crooked, a further indication that children were considered to be weak immediately after birth.[27] Cadogan identified the binding of a child as another aspect of child health, again, an attempt to strengthen a weak child. As children's limbs were weak, the child was often swaddled, but Cadogan argued that

> the mother who has only a few rags to cover her child loosely … see[s] it healthy and strong, and very soon able to shift for itself; while the puny insect, the Heir and Hope of a rich Family, lies languishing under a load of finery, that overpowers his limbs, abhorring and rejecting the Dainties he is crammed with, till he dies a victim to the mistaken care and tenderness of his fond mother.[28]

Buchan argued that too many clothes, and those clothes being fitted too tightly, had a negative impact on the health of infants and prevented the child from gaining strength and the ability to walk.[29] In the eighteenth century, cold baths were the most common remedy suggested to build up the strength of the child. Wesley argued that 'to prevent tenderness, rickets and weakness, dip them in cold water each morning until they are eight or nine months old'.[30] Wesley and Cadogan suggested that children were not born weak, in contrast to Sharp. Cadogan argued that 'in all the other productions of nature we see the greatest vigour … of health the nearer they are to the egg or the bud'.[31] Children were born strong; it was bad nursing and parenting that led to weak children. Wesley also argued that children could go barefooted and bareheaded, a unique suggestion, as other physicians argued that draughts and colds caused illness in weak children. Differences between the views of Cadogan, Wesley, Sharp and Buchan demonstrate that ideas about

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[27] Jane Sharp, *The Midwives Book. Or the Whole Art of Midwifery Discovered. Directing Childbearing Women How to Behave Themselves in Their Conception, Breeding, Bearing, and Nursing, of Children*, ed. by Elaine Hobby (Oxford: Oxford University Press, 1999), p. 272.
[28] Cadogan, *Essay Upon Nursing*, p. 8.
[29] Buchan, *Domestic Medicine*, p. 10.
[30] John Wesley, *Primitive Physick: Or an Easy and Natural Method for Curing Most Diseases*, 24th edn (London: G. Paramore, 1792), p. 35.
[31] Cadogan, *Essay Upon Nursing*, p. 7.

the strength of children, and the appropriate ways in which to care for them, were not standardised at this time.

Yet despite the arguments put forward by many physicians, Cadogan believed that children could survive ill health better than adults, and that this ability was particularly true in the case of smallpox. Cadogan asserted that children bore pain and disease better than adults because 'a twig is less hurt by a storm than an oak'.[32] So whilst children were identified as weak, they were also considered better equipped to deal with illness than adults. Hannah Newton has shown that children's bodies were recognised to be different from those of adults. Children were defined by their humid humours and, as a consequence, medical theories about children were closely linked to their humours.[33] Newton's study only covers the period 1580-1720, yet by the end of the eighteenth century the humoral ideas about children had changed little. Cadogan argued in his *Essay Upon Nursing* that Foundling children were healthier than other children because they were 'bred in a very plain, and simple manner'.[34] Although Benzaquén has demonstrated that the eighteenth century was a time of medical change, children's bodies were still understood in terms of their humours at the beginning of the nineteenth century.[35]

Different categories, such as age, size, weight and constitution, were all used to understand childhood health. These categories had an impact upon the ways in which child health was understood. Age was important, but not as important as the individual constitution of the child. Physicians such as Brownrigg and Buchan took into account the strength and weight or size of children, as did domestic receipt books. The weight, size and strength of children were key to the determination of the correct remedy. In theory, gender was also an important aspect of childhood health and medicine, although to a

[32] Ibid.
[33] Newton, *Sick Child*, p. 33.
[34] Cadogan, *Essay Upon Nursing*, p. 5.
[35] Benzaquén, 'Doctor and the Child', p. 13.

lesser extent than size or weight. Newton makes the point that boys were considered hotter than girls due to their humours and constitution. The difference in heat, therefore, made girls and boys susceptible to different diseases. For example, as boys were hotter than girls, they were thought to be more likely to suffer diseases of heat, such as smallpox, than girls. But records of the Foundling Hospital and workhouses do not mention a difference between the numbers of boys and girls who suffered from smallpox. Therefore, this point cannot be proven. However, there was a perception of difference in how children's bodies worked and how gender influenced the likelihood with which a child would contract certain diseases.

Child health was understood in terms of what could be seen. Physicians noted that children had different bodies to those of adults, and therefore had different needs in terms of health. But the visual inspection of children was more important in the diagnosis and treatment of children than the recording of their age. Leeds-based surgeon William Hey treated many children in their homes, and did not always note their age. However, he always included a description of the child, and of their constitution and symptoms.[36] Similarly, Cumbrian physician Dr William Brownrigg did not always note down the ages of the children he treated, but there was always a description regarding the state of the child and of their symptoms. In June 1737, Brownrigg treated a young boy, a carpenter's apprentice. The name and age of the child were not noted, but the boy was described as 'a cachectic youth … with chronic dyspepsia', and one who had drunk 'large amounts of cold fluids' in the recent hot summer. As a result of this, his legs became swollen with a 'massive oedema'.[37] The term 'cachectic' suggests that this boy had the symptoms of cachexia, a condition of low weight, weakness or general bodily decline. James' *Medicinal Dictionary* defines cachexia as 'ill or bad, a universal bad habit of body

[36] BLSC, MS 1991/1/2, William Hey, Case Histories in Medicine and Surgery.
[37] Brownrigg, *Medical Casebook of William Brownrigg*, p. 6.

proceeding from a deficit in nutrition'.[38] The definition provided by James suggests that this boy was weak and thin, perhaps due to the lack of a good diet. The boy simply may have looked underweight or malnourished, but Brownrigg felt that this was a more important observation to make of the boy than his name or age. Brownrigg also treated an infant aged five months, who was of 'good bodily condition and previously free from all disease'.[39] The cachectic countenance of Brownrigg's first patient was the most important factor in his understanding of the illness of the child, in the same way that the previous good health of his second patient was crucial. Therefore, what physicians and other carers of sick children could actually see were particularly critical to understandings of child health in the eighteenth century.

Child health was understood, by adults, as different. Boerhaave wrote that, 'to new-born children happen diseases peculiar to them', suggesting that children contracted illnesses which were unique to them. As a result, the health of children had to be understood independently from that of adults.[40] Boerhaave identified digestion of children as being a cause of illness. He pointed out that:

> They also suffer many ills from the milk itself when that is too soon and too much coagulated and curdled in the stomach, and is there kneaded together in one heavy sharp mass.[41]

The increase in the number of medical texts aimed at diseases of children and the number of physicians who made child health their focus suggest that the understanding of child health was changing and developing in the eighteenth century, albeit slowly.

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[38] R. James, *A Medicinal Dictionary; Including Physic, Surgery, Anatomy, Chymistry, and Botany, in All Their Branches Relative to Medicine. Together with a History of Drugs; ... With Copper Plates.*, 3 vols. (London: Printed for T. Osborne, 1743), I, p. 1028.
[39] Brownrigg, *Medical Casebook of William Brownrigg*, p. 35.
[40] Herman Boerhaave, *Boerhaave's Aphorisms: Concerning the Knowledge and Cure of Diseases. Translated from the Last Latin Edition. With Useful Observations and Explanations*, 3rd edn (London: Printed for W. Innys and J. Richardson, and C. Hitch and L. Hawes, 1755), p. 396.
[41] Ibid., p. 398.

1.3: Factors which affected the health of children in eighteenth-century England

Diet, cleanliness, and living conditions were all major factors which were perceived to affect child health in eighteenth-century England. The belief that sick, lazy, and dirty parents and nurses contributed to the ill health of children was also prevalent at this time.

The cleanliness and health of the parents was one of the most important factors that was perceived to affect the health of children in the eighteenth century. The physician William Buchan included parents as an influence upon of child health in his section on the health of children in his book *Domestic Medicine*.[42] Buchan was unequivocal in his claim that diseased and unhealthy parents produced unhealthy children, and blamed the ill-health of children on bad and diseased parents and nurses. The mother, in particular, was often believed to be to blame for sick or weak children. Buchan suggested that the mother was uninterested or untrained in how to care for children, or was sick, lazy, weak or diseased herself, and had passed this on to her child.[43] Buchan argued that 'one great source of the diseases of children is, the unhealthiness of parents'.[44] Buchan cited Rousseau, who claimed that 'on the constitution of mothers depends originally that of their offspring'.[45] Both Buchan and Rousseau argued that the primary cause of illness amongst children was the humoral imbalance of the mother, thus placing the blame for an unhealthy child predominately on her. Buchan also claimed that the father was to blame when children were sick, although not to the same extent as the mother. The idea that mothers were more to blame than fathers was linked to the idea that a humoral imbalance and poor constitution passed from mother to child during pregnancy. Buchan

[42] Buchan, *Domestic Medicine*, 7th edn.
[43] Ibid., p. 7.
[44] Ibid., p. 5.
[45] Rousseau. Quoted in ibid., p.6.

argued that the irregular lives of the fathers, rather than their diseases, were to blame for ill health. He exclaimed 'how happy had it been for the heir of many a great estate, had he been born a beggar, rather than to inherit his father's fortunes at the expense of inheriting his diseases'.[46] Here, Buchan pointed out that the rich inherited not only fortunes from their fathers but also diseases.

Buchan was not the only eighteenth-century practitioner to blame parents for the poor health of their children. Cumbrian physician William Brownrigg also pointed out that a diseased parent could have had catastrophic results for their offspring. Brownrigg recorded the illness of a child which he identified as having potentially been caused by the health of the mother. An infant of five months old was being fed by his mother. Brownrigg described the mother as 'an obese young woman of relaxed fibre and much more given to emotional disturbances. For a week she had been suffering from abdominal pain and wind and for this she had been drinking a purgative … the baby had the same disease as his mother and having been given purgatives, he moved his bowels more often than his mother'.[47] In Brownrigg's opinion, the constitution of the mother and the conditions she suffered from clearly had an impact upon the health of her child. The child suffered from the same condition as his mother and the account indicates the perception that the condition had been passed from mother to child through breastfeeding. The remedies provided to the mother and child were the same, but the child's prior good health meant that he was cured before his mother. Brownrigg acknowledged the need for parents to be healthy. When referring a nineteen year old girl to Mr Cope, MD, he wrote that 'she was born of normal, healthy parents and is not tainted either with scrofula or any dangerous inherited disease'.[48] Brownrigg refused to describe the 'temperament, age or physical condition' of this 'honest girl … you will best be able to observe these things

[46] Ibid., p. 6.
[47] Brownrigg, *Medical Casebook of William Brownrigg*, pp. 35–6.
[48] Ibid., p. 102.

when you see her yourself'.[49] Brownrigg had identified that this girl was normal, of healthy parents, 'well-endowed and robust'. Her illnesses could not be blamed on her parents, as they were normal and healthy. Therefore, another reason needed to be found to explain her illnesses, indicating that parents were not perceived to be the only cause of childhood illness in the eighteenth century. However, parents were often the first place a physician looked in order to establish the cause of illness.

Nurses, as well as parents, were perceived to cause ill-health in children in eighteenth-century England. Midwife Jane Sharp noted in 1671 that, 'if the child be ill the Nurses milk is commonly the cause of it'. If an unhealthy woman was allowed to nurse a child, Sharp believed it had a negative impact upon the health of the child.[50] When a child had to be nursed, Sharp pointed out several characteristics that were necessary to ensure that the child remained in good health. The nurse had to be 'of a good complexion and constitution; and if the Mother be not so, it will be good to change the milk by choosing a good wholesome nurse, that may correct the natural humours of the child drawn from the ill complexion of the mother'.[51] Here, Sharp argued that a good nurse could help raise a strong and healthy child, despite the fact that the mother may have been sickly. In contrast, Armstrong, in line with Cadogan, wrote in 1783 that children should only be dry nursed if it was absolutely necessary, such as when a child was born strong and the mother could not nurse. In this case, a strong child could have been weakened by an ailing nurse.[52] The nourishment given to a child from a strong wet nurse was enough to override the inheritance of a bad constitution, but a weak nurse could have a serious impact upon a strong child. Buchan noted, writing more than seventy years after Sharp, the importance of a nurse's constitution. Buchan pointed out that a 'healthy nurse,

[49] Ibid.
[50] Sharp, *Midwives Book*, p. 268.
[51] Ibid., p. 265.
[52] Armstrong, *Account of the Diseases Most Incident to Children*, p. 153.

wholesome air, and sufficient exercise, will do wonders' for the health of a child.[53] Likewise, Armstrong identified the necessary traits for a healthy nurse and child. He advocated that nurses should be clean, healthy and good natured and should have plenty of good milk.[54]

The practice of wet-nursing was prevalent during the eighteenth century. Buchan argued that some parents were 'above taking care of their children', and therefore passed their children to wet nurses.[55] Such parents were at fault for placing their children in the care of dirty, lazy, or diseased nurses. The Foundling Hospital was also concerned by the possibility of nurses passing diseases onto children. Many of the young infants who were brought to the Foundling Hospital needed to be sent out to a wet nurse, and the child's health was therefore at risk from an unsanitary nurse.[56] A network of inspectors was set up to monitor the health of the children, to ensure that the nurses were healthy, and to report on children and nurses who were sick. However, in some of the inspectors' notes, only the weaknesses or illnesses of the children were recorded.[57] Therefore, either only the children were sick, or the illnesses of the nurses were not thought, by the inspectors, to be worthy of comment.

Alongside increasing the risk of early death, poor care in infancy was thought to have a negative impact upon the long-term health of children. William Cadogan noted that the feeding of children was the most important aspect of child health, and that 'nothing be given them but what is wholesome and good for them and in such quantity as the body calls for'.[58] The mother's milk was the most important part of an infant's diet, and Cadogan emphasised its importance in the care of children.[59] Buchan claimed that

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[53] Buchan, *Domestic Medicine*, 7th edn, p. 7.
[54] Armstrong, *Account of the Diseases Most Incident to Children,* p. 154.
[55] Buchan, *Domestic Medicine*, 7th edn, p. 2.
[56] McClure, *Coram's Children*, p. 13; Levene, *Childcare, Health and Mortality*, p. 148.
[57] LMA, A/FH/A/29/003/001, Matron's Reports on Children at Nurse in the Country, 1798-1807.
[58] Cadogan, *Essay Upon Nursing*, pp. 13-14.
[59] Ibid., p. 18.

mothers were unable to care for their children naturally, and had to be taught.[60] Buchan used the term 'ignorant' and argued that mothers had to be taught how to care for, feed, and cloth their children by physicians such as himself.[61] Armstrong, Buchan and Underwood all referred to the care given to young animals by their mothers, suggesting that animals knew instinctively how to care for their young.[62] Buchan went on to argue that humans were the only animals that could not care for their own children naturally, and thus needed instruction from physicians.[63] In the place of the mother, a healthy nurse was to be used. Underwood, writing in 1793, agreed that the mother should feed the child, but only 'where her health can safely admit of it'.[64] Thus, the care provided to children in their infancy was perceived to affect their health in eighteenth-century England. Children were thought to be better off when nursed by their mother, but a suitable nurse was located when this was not possible. A strong nurse was able to strengthen a weak child. Conversely, a weak nurse was able to weaken a strong child. Therefore, the nursing of an infant was identified as a complex job, which could affect the health of children both positively and negatively.

Diet, an important non-natural, was thought to have an impact upon the health of children in eighteenth-century England. The attempt to control diet as a way of maintaining health was not new in the eighteenth century, as it had been an important aspect of health since antiquity.[65] Foods were categorised according to a wide range of qualities, including whether they were cold, hot, moist or dry, in line with humoral understandings of medicine.[66] The importance of diet for the health of children was

[60] Buchan, *Domestic Medicine*, 7th edn. p. 3.
[61] Ibid., p. 3.
[62] Armstrong, *Account of the Diseases Most Incident to Children*; Buchan, *Domestic Medicine*, 7th edn, p. 1; Underwood, *Treatise on the Diseases of Children*, p. 336.
[63] Buchan, *Domestic Medicine*, 7th edn, p. 1.
[64] Underwood, *Treatise on the Diseases of Children*, pp. 329-30.
[65] Sandra Cavallo and Tessa Storey, *Healthy Living in Late Renaissance Italy* (Oxford: Oxford University Press, 2013), p. 209.
[66] Ibid., p. 210.

recognised during the eighteenth century. The relationship between diet and illness was also drawn to the attention of the governors of the Foundling Hospital.[67] William Cadogan wrote to the governors of the London Foundling Hospital and outlined a diet that he felt would be beneficial to the foundling children. Cadogan's concern was for the general health of the foundling children so his advice also covered all other aspects of nursing children. Cadogan recommended that children be given 'any kind of mellow fruit, either raw, stewed, or baked; Roots of all sorts, and all the Produce of the Kitchen Garden'.[68] Once the children began teething, between six and eight months old, flesh meat could be given within the diet.[69] He recommended that children be given a little bread and butter, but the butter was to be fresh, sweet and in small quantities, or it would sour and 'foul all the juices of the body'.[70] Cadogan argued that he was 'sure all these things are wholesome and good for them, and everyone else'.[71] Clearly, Cadogan wanted to standardise the diet which foundling children consumed as much as possible. Unfortunately, no records of the diet the children were given whilst at nurse have survived, so it is impossible to say whether all of the nurses followed Cadogan's advice. However, the evidence demonstrates that the link between health and diet was acknowledged at the London Foundling Hospital and discussed by its governors.[72] A standardised diet for the children was difficult for the governors to implement, particularly whilst the children were at nurse.

Once children were weaned, their diet was still thought to be important to their health. The size of the children's bodies was often noted in treatises, along with their constitution and occasionally their personality. Armstrong advised that once a child

[67] McClure, *Coram's Children*, p. 210.
[68] Cadogan, *Essay Upon Nursing*, p. 35.
[69] Ibid., p. 36.
[70] Ibid., p. 35.
[71] Ibid., p. 36.
[72] McClure, *Coram's Children*, p. 211.

reached the age of seven months, as long as he was 'not inclined to be fat', he could be given white meat once or twice a week.[73] Light bread pudding and the crust of bread were also to be introduced into the diet at around this age. Armstrong emphasised the lightness of the food, and argued that if the diet was too heavy it would affect the child's constitution and health.[74] Cadogan also advocated light food for children, and suggested that the wrong kind of food was a common cause of illness.[75] Underwood noted that bread was heavy, but he believed that the heaviness of bread allowed for greater nutrition. Underwood believed bread lost its nutritional value if it was mixed with water.[76] Given these differences in perspectives on the nutritional value of bread and the importance of lightness, it is unsurprising that a standardised diet for children did not develop.

In the eighteenth century, the living conditions of children were thought to have an impact upon their health, particularly if they prevented access to fresh air. Miasmas were believed to spread disease, and fresh air was considered to be essential to good health. The need for fresh air became more pressing during the eighteenth century in the context of urbanisation. Margaret Pelling pointed out that, whilst concern about London's expansion was usually linked to disease, the disappearance of London's recreational grounds was also of great concern.[77] Urbanisation thus had broader health implications. Contemporaries associated some diseases with overcrowded, ill-ventilated slums, whose inhabitants included children.[78]

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[73] Armstrong, *Account of the Diseases Most Incident to Children*, p. 163.
[74] Ibid., pp.163–4.
[75] Cadogan, *Essay Upon Nursing*, p. 16.
[76] Underwood, *Treatise on the Diseases of Children*, p. 360.
[77] Margaret Pelling, 'Skirting the City? Disease, Social Change and Divided Households in the Seventeenth Century', in *Londinopolis: Essays in the Cultural and Social History of Early Modern London*, ed. by Paul Griffiths and Mark S.R. Jenner (Manchester: Manchester University Press, 2000), pp. 154–75, (p. 158).
[78] Roy Porter, 'The Eighteenth Century', in *The Western Medical Tradition, 800 BC to AD 1800*, ed. by Lawrence I. Conrad et al. (Cambridge: Cambridge University Press, 1995), pp. 371–476, (p. 407).

An interest developed in the relationship between living standards and health during the eighteenth century, particularly in urban settings.[79] Children were considered to be particularly at risk of ill health due to living conditions and were also thought to be significant carriers of infectious diseases, such as fevers. Parents were advised to wash their children 'head to foot with cold water, before you send them to work in the morning', to ensure all disease was washed off them.[80] Children were accused of causing themselves to be ill or injured when working in factories, as they were thought to be careless.[81] Kirby has argued that the poor were often thought to be responsible for their own illnesses, due to the poverty and filth in which they lived.

In London, shared facilities added to the fear of contagion due to the lack of fresh air and fresh water. Families often shared one room, which made the small, cramped conditions rife for the spread of infectious diseases.[82] Issues with the circulation of air was noted in the confined spaces of the Foundling Hospital and the workhouses. Buchan described this unwholesome air as being one of the most destructive things to a child's health.[83] In the workhouse, the air children breathed was a concern because it often came from the undeserving poor.[84] This air was not the only air to be blamed for ill health. The location of bogs and bodies of water was perceived to have caused illnesses through the air, as they created a humid environment, which in turn, caused illnesses to thrive.[85]

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[79] James C. Riley, *The Eighteenth Century Campaign to Avoid Disease* (Basingstoke: Palgrave Macmillan, 1987), p. 90.
[80] J. Ferriar, 'Advice to the Poor', in *Medical Histories and Reflections* (London: W. Bulmer & Co., 1810). Quoted in Peter Kirby, *Child Workers and Industrial Health in Britain 1780-1850* (Woodbridge: Boydell Press, 2013), p. 17.
[81] Kirby, *Child Workers*, p. 17.
[82] Tim Hitchcock, *Down and Out in Eighteenth-Century London* (London: Hambledon Continuum, 2007), p. 32.
[83] Buchan, *Domestic Medicine*, 7th edn, p. 24.
[84] Kevin Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse: London Infirmaries in Their Widest Relief', in *Medicine and the Workhouse*, ed. by Jonathan Reinarz and Leonard Schwarz (Woodbridge: Boydell and Brewer, 2013), pp. 19–39, (p. 27).
[85] Emily Cockayne, *Hubbub: Filth, Noise & Stench in England, 1600-1770* (London: Yale University Press, 2007), p. 206; Cavallo and Storey, *Healthy Living*, p. 71.

In addition to their living conditions, the working conditions of children often had an impact upon their health, particularly in the latter part of the eighteenth century, defined by Peter Kirby as being after 1780.[86] Children who worked within factories were also at risk of illness due the quality of air.[87] Children in factories, after 1780, were liable to breathe in chemicals or dust, which could lead to lung complaints in later life and children in Manchester were observed 'throw[ing] up accumulated dust and filth' as a result of working in factories.[88] Those in cotton factories were at high risk of pulmonary disease, and conditions such as asthma were often noted amongst factory workers, including children.[89] There were also health concerns to be found outside the factories. The education of girls in their household chores often altered their constitution for the worse. Buchan noted that 'one hardly meets a girl who can, at the same time, boast of early performances by the needle, and a good constitution'.[90] The lack of air and exercise for girls who spent time indoors sewing was judged to be bad for their health. The bad health of girls as a result of sewing, as well as the bad health of children working in factories, was linked to their poor health as adults. The non-naturals were important aspects of child health, used to ensure that children grew into healthy adults.

Diseased parents and nurses were often blamed for the ill health of children by physicians in the eighteenth century. The quality of air, bad living conditions, uncleanliness, diet and working conditions also affected child health. Children working in mills and coal mines were predisposed to ill health, and those children who worked within the home also had health-related concerns. The employment of young children led to the development of adults with poor constitutions, who in turn became ill and poor parents. Poor children living in the eighteenth century had a struggle to survive. They

[86] Kirby, *Child Workers*.
[87] Ibid., p. 50.
[88] Ibid., p. 81.
[89] Ibid., p. 78.
[90] Buchan, *Domestic Medicine*, 7th edn, p. 21.

lived and worked in conditions which negatively affected their health. If they survived to adulthood, they were then likely to continue the cycle by producing poor and weak children who faced the same challenges as their parents.

1.4: The provision of healthcare for children in the eighteenth century

At the beginning of the eighteenth century, the majority of child healthcare was provided within the home. Care was provided by mothers, wider family, friends and neighbours.[91] Nicholas Culpeper wrote in 1649 that 'if you ail anything, everyone you meet, whether man or woman will prescribe you medicine for it'.[92] Historian Keith Thomas argued that 'every housewife had her repertoire of private remedies'.[93] Medical knowledge was handed down from mother to daughter for generations, and the woman of the house was expected to care for her family in times of sickness. Dingwall argues that the consultation of medical practitioners was often considered to be too expensive, especially when the basic ingredients were much cheaper to buy and the medicine could be made within the home.[94] Armstrong argued in his 1777 text that 'the care of infants, even with regard to medicine, has commonly been left to old women, nurses and midwives'.[95] Whilst this was a prevalent view in the eighteenth century, this section will illustrate that the eighteenth century was, in fact, a century of change in the care of sick children. The care of sick children at the beginning of the nineteenth century still occurred largely within the home, but during the course of the eighteenth century, institutions came to play a larger role in the provision of care for sick children. Institutions such as the

[91] Mary Lindemann, 'Health and Science', in *A Cultural History of Childhood and Family in the Age of Enlightenment*, ed. by Elizabeth Foyster and James Marten (London: Bloomsbury, 2010), pp. 165–84, p. 179).
[92] Nicholas Culpeper, *A Physicall Directory, Or, A Translation of the London Dispensatory* (London: Printed for Peter Cole, 1649).
[93] Keith Thomas, *Religion and the Decline of Magic: Studies in Popular Beliefs in Sixteenth- and Seventeenth-Century England* (Harmondsworth: Penguin, 1991), p. 14.
[94] Helen Dingwall, *Physicians, Surgeons and Apothecaries: Medical Practice in Seventeenth-Century Edinburgh* (East Linton: Tuckwell Press, 1995), p. 202.
[95] Armstrong, *Account of the Diseases Most Incident to Children*, p. 2.

Foundling Hospital, dispensaries, workhouses and infirmaries began to institutionalise care of the sick, including children. The development of institutions played a role in the changing nature of care during the eighteenth century.

The main carer for sick children in the early modern period was the mother. Gervase Markham, in his 1631 text *The English Housewife*, noted that the main role of the mother was to care for the family, particularly their health and soundness of body, and went on to argue that women should know 'how to administer many wholesome receipts or medicines for the good of their [the family's] health'.[96] Lisa Smith has argued that there was a complex relationship between family members regarding medical health. The family of a patient could have an impact upon the type and amount of medical care that a patient could access, and the relationship between mothers and daughters, in particular, was important when illness arose.[97] Alisha Rankin argues that women were expected, during the early modern period, to have some knowledge of medicine, in order to provide care for the sick within the household.[98] Ian Mortimer agrees that the bulk of the care was undertaken by women, although not necessarily women within the household. These nurses were often brought in to undertake care when a female relative was unable to do so.[99] Evidence from the receipt books of elite women, such as Lady Grace Mildmay and Elizabeth Freke, suggests that women were responsible for making, storing and providing

[96] Gervase Markham, *The English House-Wife: Containing the Inward and Outward Vertues Which Ought to Be in a Compleate Woman, as Her Skill in Physick, Surgery, Cookery, Extraction of Oyles, Banqueting Stuffe, Ordering of Great Feasts, Preseruing of All Sorts of Wines, Conceited Secrets, Distillations, Perfumes, Ordering of Wooll, Hempe, Flax, Making Cloth, and Dying, the Knowledge of Dayries, Office of Malting, of Oates, Their Excellent Vses in a Family, of Brewing, Baking, and All Other Things Belonging to an Houshold. A Work Generally Approued, and Now the Fourth Time Much Augmented, Purged and Made Most Profitable and Necessary for All Men, and the Generall Good of This Kingdome* (London: Printed by Nicholas Okes for Iohn Harison, 1631), p. 4.
[97] Lisa Smith, 'Reassessing the Role of the Family: Women's Medical Care in Eighteenth-Century England', *Social History of Medicine*, 16:3 (2003), 327–42.
[98] Rankin, *Panaceia's Daughters*, p. 11.
[99] Ian Mortimer, *The Dying and the Doctors: The Medical Revolution in Seventeenth-Century England* (Woodbridge: Boydell Press, 2009), p. 141.

medical remedies to the sick within the household and often the wider community.[100] Some of these receipt books included receipts given to the author by other women, as well as by physicians.[101]

Many of the manuscript texts are named after their author, such as, Mrs Meade's book and the book of Mrs Elizabeth Hirst.[102] Some books, like that of the Sheldon family, were simply named after the family from which they came, indicating that perhaps other members of the family were involved in writing down remedies and in the making and administering of medicines.[103] The different handwritings present in each of the manuscript texts shows that different people were involved in the making of domestic receipt books that were used within the home to care for sick family members, including children. That a number of people were involved with the writing of these texts in turn suggests that a number of different family and community members were involved in the care of sick children within the home.

Domestic receipt books written in different hands suggest that they were passed around either within the family or within the community. However, the books do not specify to whom the medicines were administered, how often, and in what dosages, which limit what they tell us about medical care during this period.[104] Nonetheless, information regarding the care of the sick within the home using domestic receipt books can be identified. The receipts found inside the texts suggest that the positive effects of the remedies were the reason for their inclusion. Many of the domestic receipt books were a

[100] Jennifer W. Hellwarth, '"Be Unto Me as a Precious Ointment": Lady Grace Mildmay, Sixteenth-Century Female Practitioner', *Dynamis*, 19 (1999), 95–117; Elaine Leong, 'Making Medicines in the Early Modern Household', *Bulletin of the History of Medicine*, 82:1 (2008), 145–68.
[101] London, Wellcome Library, MS.8468, English culinary and medical recipe book, 18th century.
[102] Wellcome Library, MS.3500, Meade, Mrs. & others, 1727; MS.2840, Hirst, Mrs. Elizabeth (& others), 1725.
[103] Wellcome Library, MS.8468, English culinary and medical recipe book; MS.1340, Boyle Family, 1710.
[104] Whaley, *Women and the Practice of Medical Care*, pp. 152–3.

mixture of cookery recipes and physic receipts, and were often directed at the lady of the house, be that the mother or the head housekeeper.

The mixture of cookery and physic is worth emphasising. The health of the family, including the children, was thought to be affected by their diet, air, exercise, cleanliness and appropriate clothing. The authors of these texts, such as Mary Kettilby, Martha Bradley, Hannah Woolley, and Sarah Jackson, acknowledged the link between cookery and physic. The handwritten texts found in the Wellcome Library also demonstrate the importance of the link between cookery and physic, as they include the same combination of recipes and remedies.[105] In addition to the manuscript domestic receipt books, texts such as those written by Armstrong, Buchan and Wesley were meant for use within the home.

Over the course of the eighteenth century, physicians began to assert an influence over medical care within the home. Physicians such as Buchan, Armstrong, Von Rosenstein and Underwood published guidelines on how children were to be raised and cared for when sick. Despite being written by men, these texts were aimed at women. Buchan claimed that mothers did not instinctively know how to raise their children, thus the guidance within his book was necessary.

Very few of the manuscript books examined for this research instructed women on how to raise a family, or how to maintain and restore the health of children. Texts such as 'A Book of Physick', Mrs Meade's book, the Sheldon Family Book, and the Boyle Family book, were all written by the women of the house and used by women as a guide to cookery and physic.[106] Although these texts were devised to help women in their daily lives, they were not condescending texts like those written by the burgeoning male

[105] Wellcome Library, MS.3500, Meade; MS.1320, A Book of Phisick, 1710; MS.8468, English culinary and medical recipe book; MS.1340 Boyle Family.
[106] Wellcome Library, MS.3500, Meade; MS.1320, Book of Phisick; MS.8468, English culinary and medical recipe book; MS.1340, Boyle Family.

medical field. Male physicians made it clear that women could not be trusted with the care of the family, particularly the medical care of the children, and attempted to insert themselves into this aspect of child health care from the 1760s onwards.[107]

By the same period, institutions had opened in London which allowed medical treatment to take place outside the home. The London Foundling Hospital opened in 1741 and, as a result of the poor and malnourished conditions of the children placed in the hospital, opened an infirmary in which to treat its sick. Although at first the Foundling Hospital only accepted healthy children, some diseases, such as syphilis, were not always obvious upon inspection, and thus needed treating when the symptoms developed. Outbreaks of disease, including but not limited to smallpox, whooping cough, the itch, scald head, and colds and coughs, were rife amongst the children grouped together in the Hospital. During this period, the majority of children were treated within the home, but as this was not possible for Foundlings they had to be treated within an institution. The Foundling Hospital was the first of its kind to care for children in this way during the eighteenth century. In addition to being treated within the Foundling Hospital Infirmary by physicians and apothecaries, the children were sometimes the subjects of experiments. These experiments have often been hailed as the first step towards paediatrics, a medical speciality which developed in the nineteenth century.[108] Physicians who had access to the children in the Foundling Hospital held a unique position. They were able to study and treat diseases in children, and use children in experiments aimed at the improvement of medical treatments specifically for children and childhood diseases. The Governors of the Foundling Hospital called for the best in medical care for the Foundling children, although treatment did not always ensure that the children survived illnesses. The presence of physicians at the Foundling Hospital marked a clear distinction between

[107] Buchan, *Domestic Medicine*, 7th edn, p. 1.
[108] Mathisen, 'Treating the Children of the Poor', p. 263.

medical care in a domestic setting and an emerging field of professional childhood medicine.

The late 1760s witnessed attempts to provide healthcare for children outside the home. As we saw in the introduction, George Armstrong opened the first dispensary for the infant poor in London in 1769, allowing children to be cared for within their own homes with medical supervision rather than being treated as in-patients in infirmaries. Armstrong felt that the mothers of sick children would clash with the nurses over the provision of medical care and, as a result, the children would not be cured. He also noted that if a mother was in hospital with her sick child, her other children, husband, and home would be neglected.[109] Mothers had the flexibility in their domestic regimen to care for their sick children whilst still caring for the other members of the family and carrying out their other duties.[110] In addition to the conflict between mothers and nurses, Armstrong feared cross-contamination, and the effects of visitors on the hospital wards. Therefore, Armstrong advocated in his writing that sick children should be treated within the home. However, Armstrong encouraged mothers to seek professional medical help for their children sooner rather than later during an illness, and used his two texts as advertisements for his own dispensary and medical services. Although Armstrong's dispensary was not an in-patient institution, it still provided medical services and medicines which allowed mothers to care for their sick children within the home. The dispensary therefore brought professional medicine into the home, but relied on the mothers to administer the medicines to the children.

The development of dispensaries, along with the opening of the Foundling Hospital and workhouses, marked the beginning of a shift towards medical care for

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[109] Thomas E. Cone, Jr., 'On why a hospital for sick children would be impracticable, According to Dr George Armstrong, Founder of the first dispensary for the infant poor in England (1772)', *Pediatrics*, 75:826 (1985), p. 862.

[110] Jane Humphries, *Childhood and Child Labour in the British Industrial Revolution* (Cambridge: Cambridge University Press, 2010), p. 142.

children being provided outside of the home. Dispensaries allowed children to access the medical care that they were so often denied in infirmaries, as shown by the number of children who were treated at the Bamburgh Castle Dispensary and Armstrong's own Dispensary for the Infant Poor. These institutions permitted the bulk of the treatment of sick children to be carried out within the home, but allowed educated medical individuals to provide medical remedies for childhood illnesses. Dispensaries were particularly useful for large families as, in Armstrong's words, they allowed the mother or main carer to access reliable medical care whilst maintaining their duties within the home. In cases of severe illness, where medical care in the home had not worked, dispensaries and apothecaries provided the necessary treatment. Apothecaries also did not demand that prospective patients be referred to them by a patron, as was the case with infirmaries.

In the final pages of his *Account of the Diseases Most Incident to Children*, Armstrong laid out the reasoning behind his development of the Dispensary:

> This is the *only* charity, as far as I know, that has ever been instituted *solely* for the relief of children. The design of it being to administer advice and medicines *gratis* to the children of the Industrious Poor, from birth till the age of ten or twelve years, and its salutary effects cannot be more evidently demonstrated, than from the great number of patients relieved by it.[111]

Armstrong did not demand a recommendation from a governor of his institution in the way that many infirmaries did.[112] He offered medical treatment for free to the children of the poor. The significance of the Dispensary for the Infant Poor lies in the fact that, for the first time, women in London were offered a choice as to who provided healthcare for their children.

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[111] George Armstrong, *An Account of the Diseases Most Incident to Children, from the Birth till the Age of Puberty; with a Successful Method of Treating Them. To Which Is Added, an Essay on Nursing: With a Particular View to Children Who Are Brought up by Hand. Also a Short General Account of the Dispensary for the Infant Poor. A New Edition, with Several Additions. This Edition Contains, amongst Other Additions, Three Cases of the Hydrocephalus Internus, Successfully Treated*, 2nd edn (London: T. Cadell, 1783), p. 197. Emphasis in original.
[112] Ibid., p. 199.

Armstrong justified the benefits of his Dispensary for the Infant Poor by saying that:

> Another advantage attending this charitable institution is, its being confined to children only, whereby their complaints are more closely attended to, and considered; for, when sick children are admitted promiscuously with adults, the former never have so much attention paid to them, as the latter. The great resort of children to this, in preference to any of the other charities, is an evident proof of the truth of observation.[113]

As well as acknowledging that children should receive medical treatment, Armstrong argued that they should be treated independently of adults. Armstrong ended his text by stating that: 'this being the first charitable institution of the kind, it may justly claim the merit of having given risen to all the other charitable Dispensaries in the Kingdom'.[114] Armstrong began the shift from medical care being conducted solely within the home, towards the medical care of children taking place within institutions.

After the Dispensary of the Infant Poor in 1769, other dispensaries opened throughout the country during the last thirty years of the eighteenth century, including Bamburgh Castle in 1772, Newcastle upon Tyne in 1777, Kent in 1783, and Finsbury in 1786. These examples demonstrate the geographical spread of dispensaries during this period. Many of these institutions admitted patients without the need for recommendations from governors or patrons. At Bamburgh Castle, patients did not require subscribers, and could be referred by the clergy if they were the deserving poor.[115]

The Newcastle upon Tyne Dispensary was, like Armstrong's in London, opened with a view to helping the 'Industrious Poor'. Although not an institution specifically for children, the guidelines for the Newcastle Dispensary noted the mortality numbers of children under the age of two and pledged to help them:

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[113] Ibid., 198–9.
[114] Ibid., p. 200.
[115] Withey, 'Medicine and Charity in Eighteenth-Century Northumberland', p. 16.

> With a view to remedy these evils, and to afford every possible relief to the Poor, who constitute so large and so useful a part of every community, the Newcastle Dispensary was opened for the admission of patients in October, 1777.[116]

The treatment of patients within their homes was a common theme amongst the regulations of various dispensaries. The regulations of the Newcastle, Kent, and New Finsbury Dispensary in London all indicate that the main aim of the dispensary was to facilitate the provision of medical care in the home.[117] The number of newly-opened dispensaries, and their aims, reflect a degree of medicalisation, in which medical care was provided by the institutional dispensary and its educated medical men. However, the care of the patients and the administration of the medicines were still undertaken within the home.

Infirmaries were set up in the eighteenth century to treat illness, but they often refused to admit children unless their condition involved a fracture or required surgery.[118] An infirmary was not considered an appropriate place in which to treat children.[119] Children required intensive nursing, and were thought to be difficult to treat, disruptive and contagious. Throughout England, children with infectious diseases were barred from infirmaries, although exceptions were made. At Northampton, the Infirmary rules clearly stated that children under the age of seven years were not to be admitted, nor children or adults with infectious diseases.[120] However, the first admittance to this infirmary was a child, Thomasine Grace, who suffered from the infectious disease scald head.[121] In the

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[116] Governors, *An Account of the Newcastle Dispensary, for the Relief of the Poor, From Its Commencement in 1777, to Michaelmas 1789* (Newcastle: Hall and Elliot, 1789), p. 6.
[117] Governors, *Account of the Newcastle Dispensary*, p. 7; Governors, *An Account of the Kent Dispensary, in the Broad-Way, Deptford, for Administering Advice and Medicines, to the Poor, Gratis. Instituted December the 1st, 1783* (Deptford: Printed by J. Delahoy, 1799), p. 9; Governors, *An Account of the New Finsbury Dispensary, in St. John's-Street, Clerkenwell, For Administering Advice and Medicines to the Poor, at the Dispensary, or At Their Own Habitations, within Certain Districts. Instituted September 20, 1786* (London: s.n., 1786), p. 4.
[118] Williams, 'Four Candles', p. 79; Levene, Reinarz and A. Williams, 'Child Patients', pp. 20–21.
[119] Levene, Reinarz and A. Williams, 'Child Patients', p. 17.
[120] Northampton Infirmary, *Statutes and Rules, for the Government and Conduct of the General Infirmary, for the Relief of Sick and Lame Poor, at Northampton* (Northampton, 1793), p. 25.
[121] Williams, 'Four Candles', p. 78.

infirmaries, medical care was removed from the home and physicians and nurses provided care for the children.

In contrast to dispensaries, infirmaries required that each patient be recommended for treatment by a subscriber, governor, or someone who donated to the upkeep of the hospital. Many infirmaries only admitted patients once a week. For example, the Northampton Infirmary accepted new patients on a Saturday. However, the Royal Infirmary in Edinburgh admitted people on all days of the week.[122] Sick children thus had to meet many criteria to be admitted to an infirmary: recommendation by a governor or sponsor, arrival at the infirmary on the correct day, aged over of seven (or nine in some cases, such as at Leicester), not suffering from an infectious disease.[123] Regardless of the state of the patient, this type of medical care for children in the eighteenth century was highly restrictive. In the infirmary, sick children were cared for by female nurses and male physicians, surgeons and apothecaries. The children's mothers did not have a say in the medical care provided by the infirmary, which removed the concerns raised by George Armstrong over the potential for mother-nurse conflict. At the Royal Infirmary in Edinburgh, the duties of the nurse were less recognisably to do with nursing and focused more on the preservation of a clean environment, in line with Buchan's argument that a lack of cleanliness caused illness. The nurse had to 'remove all dust and nastiness', maintain proper ventilation, and clean tainted air with 'steaming vinegar'.[124] The nurses ensured that the children were given a good diet and clean environment to live in, and treatment was provided by the male physicians.

Nursing was an important component of care in the eighteenth century. Traditionally, women were the main providers of nursing for the sick, particularly sick

[122] Northampton Infirmary, *Statutes and Rules, for the Government and Conduct of the General Infirmary, for the Relief of Sick and Lame Poor, at Northampton* (Northampton: Printed by T. Dicey and Co., 1793), p. 21; Risse, *Hospital Life*, p. 84.
[123] Williams, 'Four Candles', p. 78.
[124] Risse, *Hospital Life*, p. 76.

children. As well as working within the community, older and single women were employed within the community to minister to the sick.[125] The status of nursing in the early modern period is ambiguous.[126] In the eighteenth century, nursing was not a profession and it occurred within the home as well as in institutions. Practising medicine, either in the home or in the wider community, was seen as an extension of a woman's domestic role. But the term nursing also included the general care of individuals, such as those who could not walk. In addition, the term wet-nurse referred to a woman who nursed an infant and provided general care to the child.

The roles of women included the provision of care for the family and the sick, and charitable work which often included caring for the sick.[127] Most women had no formal medical training, and practised without any form of medical licence.[128] Jeremy Boulton, in his examination of nurses and the poor law, shows that a great deal of money from poor relief was spent on nurses or 'keepers' in London during the early eighteenth century.[129] Keepers referred to those who took the sick and poor, including children, into their homes and who provided basic care, rather than medical care.[130] The amount of money spent by the poor law administrators shows payments to nurses who cared for the poor and the sick. It is not clear from Boulton's argument whether the nurses were themselves recipients of the poor relief, and therefore took in the sick as a way of earning their keep, or whether these women were considered to be nurses or carers by the administrators. Samantha Williams has argued that nurses provided by the poor law to care for the poor sick were often in receipt of poor relief themselves, with the poor relief

[125] Whaley, *Women and the Practice of Medical Care*, p. 112.
[126] Margaret Pelling, *The Common Lot: Sickness, Medical Occupations and the Urban Poor in Early Modern England* (London: Longman, 1998), p. 179.
[127] Whaley, *Women and the Practice of Medical Care*, p. 153.
[128] Ibid., p. 113.
[129] Jeremy Boulton, 'Welfare Systems and the Parish Nurse in Early Modern London, 1650-1725', *Family & Community History*, 10:2 (2007), 127–51, (p. 132).
[130] Boulton, 'Welfare Systems', p. 128; Mortimer, *Dying and the Doctors*, pp. 172–3.

being paid on the understanding that nursing duties would be undertaken.[131] Although not all nurses within the community were paid, such as those who took care of close family members or friends, Boulton's research shows that some nurses were paid to care for the sick, the poor, and orphaned children. Nursing was an important part of domestic care.

The nurses in the eighteenth century who worked in institutions such as the Foundling Hospital, workhouses, and infirmaries, were often older women who needed money to survive. The nurses used by the Foundling Hospital were mainly wet-nurses, and the foundling children went to live with these nurses rather than be treated within the institution. In the Foundling Hospital itself, nurses were employed to care for the children within the Hospital and to care for the sick in the Infirmary wards. The day-to-day care of the children in the Foundling Hospital was undertaken by nurses.[132] The nurses of the Foundling Hospital were under the direct supervision of the Matron, and could only provide medicines under the authority of the hospital's apothecary. The only medicines which could be given to the children had to be prescribed by a hospital physician and made up by the apothecary.[133] Nurses were responsible for the cleaning of the wards within the Foundling Hospital, and for ensuring that the children themselves were clean.[134] The care given to the Foundling Hospital children depended upon the individual qualities and actions of the hospital's nurses.

Nursing within workhouses is more difficult to identify. Undoubtedly the care of children, the elderly, and infirm occurred within workhouses, but it is unclear who provided care. Physicians and apothecaries attended the workhouses and prescribed medicines for the sick, but these men were unlikely to have resided at the institutions.

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[131] Samantha Williams, 'Caring for the Sick Poor: Poor Law Nurses in Bedfordshire, c.1770-1834', in *Women, Work and Wages in England, 1600-1850*, ed. by Penelope Lane, Neil Raven, and K.D.M. Snell (Woodbridge: The Boydell Press, 2004), pp. 141–69, (p. 143).
[132] McClure, *Coram's Children*, p. 112.
[133] Ibid., p. 113.
[134] Ibid., p. 74.

One possibility is that nurses, or carers within the workhouses, were drawn from among the pool of older women unable to work in other roles, as the Ward Book of St Mary's Workhouse, London suggests.[135] This text names an older female in the records for each children's ward. In the girl's ward, dated 22 October 1789, a 64 year old lady named Elizabeth Comton was also present. A second lady, 60 year old Elizabeth Jones, was also recorded. In the boy's ward, for the same date, 83 year old Susannah Pike was present. The presence of these three women in the children's wards suggests that they provided care to the children. The ages of the women suggest that they were inmates of the workhouse rather than employees. In addition, the ages of the women also suggest that these individuals were too old to do the usual work required of workhouse inmates. As a result, they were likely employed in-house as nurses or carers to the children, and possibly to the sick as well.

In their discussion of the workhouse in the early nineteenth century, Ruth Richardson and Brian Hurwitz argue that part of the problem with medicine within the institution was that there was 'no trained nursing staff'.[136] The nursing staff in institutions such as the workhouse and infirmaries were employed as servants rather than as part of the medical team. Older women in the workhouse often received extra payment, in rations, alcohol or money in return for the care they offered.[137] In institutions, nurses and matrons were employed as servants, with the main workload being cleaning.[138] The matron was in charge of the nurses, ensuring that they kept the institution clean thereby helping to prevent the spread of diseases. Most matrons and nurses came from a background in domestic service rather than in nursing or medical education. It was also

[135] LMA, P85/MRY1/2/81, Ward Book.
[136] Ruth Richardson and Brian Hurwitz, 'Joseph Rogers and the Reform of Workhouse Medicine', *British Medical Journal*, 299 (1989), 1507–10, (p. 1508).
[137] Williams, 'Caring for the Sick Poor', p. 142.
[138] John Woodward, *To Do The Sick No Harm: A Study of the British Voluntary Hospital System to 1875* (London: Routledge & Kegan Paul, 1974), p. 29.

the nurse's role to ensure that the patients were fed an adequate diet, and to sit with dying patients.[139] In the eighteenth century many nursing duties, including cleaning and caring for children and the sick, were undertaken by the older female inmates of the workhouses.

Many physicians provided their services to the Foundling Hospital, workhouses and infirmaries during the latter part of the eighteenth century without seeking monetary recompense. Some practitioners, however, received payments. For example, the apothecary Robert McClellan received a gratuity of £50, in 1797, which equalled a year of his salary. McClellan also had accommodation within the Foundling Hospital itself, making him one of the few medical attendants at an institution to earn a wage. However, those attached to voluntary hospitals were not required to attend the institution every day, therefore leaving the majority of the-day-to day care to the matron and nurses.[140] Physicians were often present on the days when the sick presented themselves for admission, and other medical rounds were scheduled, and spent the majority of their time building up private practice, which enabled them to earn a living wage. Often, as Woodward noted, physicians to infirmaries became personal physicians to governors, who were able to pay well for medical services, thus encouraging physicians to take up honorary positions in voluntary institutions.[141]

1.5: Conclusion

Childhood was a fluid entity during the eighteenth century, although it was recognised as a distinct phase in the life cycle. Childhood was identified less in terms of age and more in terms of the personal circumstances of the family. The age at which childhood ended depended on whether children needed to work in order to financially support their family, or whether they were in an institution that required them to leave.

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[139] Ibid., p. 31.
[140] Ibid., p. 23.
[141] Ibid.

Child health was most often discussed in terms of the size and constitution of the child, rather than in terms of the age of the child, which was often omitted from physicians' casebooks and domestic receipt books. The surviving records compiled by both individuals and institutions during the eighteenth century demonstrate that age was not the most important piece of information to record in the documentation of children's care.

Children's health in the eighteenth century was governed by a number of factors. The health and cleanliness of parents and nurses were considered by many to be major factors in the health of children. Many conditions, both medical and non-medical, including laziness, uncleanliness and weakness in both parents and nurses, were perceived to be the cause of ill health in children. The non-naturals also played a role, with problems with diet, air and exercise being three of the main factors which contributed to the ill health of children. A regimen that stressed moderation in each of these factors was a common recommendation among eighteenth-century authors, who believed that a balanced, moderate regimen maintained and restored health. Regimen was one aspect of health and care that was standardised in the eighteenth century, both for children and their carers. The failure of parents and nurses to consume a good diet, take in good air, and undertake exercise was also considered to be a cause of ill health in children. However, a child could overcome their parents' and nurses' failings by undertaking a healthy regimen which addressed all of these aspects of health. Poor living and working conditions were not so easily overcome. Dark, crowded, and unsanitary living conditions, along with long working hours in factories and mills, were believed to contribute to illness in eighteenth-century children.

Healthcare was provided for children in the eighteenth century in a variety of ways. At the beginning of the period, care for sick children was provided entirely within the home and supported by a range of receipt books, many of which were created within local communities. From the middle of the century onwards, institutions such as

dispensaries and infirmaries which provided care outside of the home began to appear in England to augment the existing system of domestic care. Indeed, the emergence of the dispensaries led to the development of an out-patient style of care, in which the assessment and prescription of medicines was undertaken by professionals but the administering of care was undertaken within the domestic sphere. The Foundling Hospital provided care to children who were attended to by the most prestigious medical men of the century. Although men asserted their medical importance during the eighteenth century, and professionally-trained men published texts that sought to provide guidance on all aspects of childcare, care was predominantly supplied within the home and by women throughout this period. Even within institutions, women provided a great deal of care to children, although this care often focused on the regimen, the cleanliness, diet and constitution rather than the administration of medicines.

Children were cared for by a range of different people throughout the eighteenth century. The person responsible for the children depended upon the circumstances. Mothers and nurses were able to care for children within the home, but when a family was admitted to the workhouse, the mother was not always able to care for her child. The records from St Mary's Workhouse, London, show that older female inmates of the workhouse undertook the care of children.

Throughout the eighteenth century, the methods by which children were recognised, recorded, and treated differed according to the procedures followed by the individual or institution who documented them. The treatment that children received was subject to a range of inconsistent approaches, often related to ideas the condition from which they suffered. There was no universally-accepted definition of childhood in eighteenth-century England, and no standardised approach to the care of sick children either.

Chapter 2: The care of children with smallpox

This chapter focuses on the care of children who suffered from smallpox, and the different treatment methods which were used. Smallpox is worthy of study because it caused significant morbidity in eighteenth-century England and often had a long-term impact on those who survived the disease, because it could lead to scarring, blindness and the loss of limbs. Smallpox also caused many deaths. Between 1701 and 1710, the London Bills of Mortality recorded the deaths of 214,611 individuals in total. Smallpox was listed as the cause of death in 12,548, or 6 per cent, of cases. Many of those affected by smallpox were children. This chapter explores how smallpox was treated, and highlights the importance of the development of inoculation in eighteenth-century responses to the disease. Experimentation with inoculation techniques encompassed trials on children and was motivated by a desire to reduce the impact of smallpox on society.

Before inoculation, as Genevieve Miller has argued, there were several ways in which individuals and communities attempted to prevent, or at the very least control, the spread of the disease. This chapter suggests that many of the methods which were used to treat or prevent smallpox were the same or similar to those used in attempts to control the spread of plague. Strategies included isolation, hygiene and following a healthy regimen. Isolation was one of the main methods used to prevent smallpox, and was an approach which sought to prevent the spread of smallpox within communities and to prevent mass outbreaks of smallpox on the scale of plague epidemics. Isolation was a tried and tested method to counter infectious disease. However, isolation was not deployed in England on the same scale as it was in North America, where the colonial administration practised isolation and quarantine.[1] People also believed that if someone

[1] Genevieve Miller, *The Adoption of Inoculation for Smallpox in England and France* (Philadelphia, PA: University of Pennsylvania Press, 1957), p. 38.

who had never suffered from smallpox followed a regimen to become as healthy as possible, they would experience a milder case of the disease. Hygiene was also considered important.[2]

The terminology of smallpox is interesting as different individuals called and spelled the disease differently. The ability to recognise smallpox in its various forms is important when researching the disease. Smallpox appears in eighteenth-century texts under a variety of different spellings. Very few individuals, either professional physicians or those writing the domestic receipt books, used the word smallpox. Usually, either small pox or small-pox was used. Spellings such as 'smalle pocks' and 'small-pock' are also present in the contemporary literature. Despite the different spellings found throughout history, they are all generally considered to describe the same disease. The Latin term *variola* was noted as early as 1425 by Guy de Chauliac as a term for smallpox. 'The pox' is also occasionally noted when discussing smallpox, although 'the pox' or 'the French pox' is now generally understood to refer to the disease known today as syphilis.[3]

Smallpox was not a new disease in the eighteenth century, but it became more widespread during this period, and epidemics occurred more frequently. Contemporaries identified an increase in the number of deaths from the late seventeenth century onwards, and number of deaths began to decline around 1775, probably as a result of widespread inoculation.[4] The increases in incidence and mortality may also be because the disease became more virulent. Regardless, smallpox was feared.

Contemporaries discussed the relationship between the incidence of smallpox and population size, seasonality and age. William Buchan, for example, observed that large

[2] Ibid., p. 41.
[3] Claudia Stein, *Negotiating the French Pox in Early Modern Germany* (Farnham: Ashgate, 2009), p. 28.
[4] John Landers, *Death and the Metropolis: Studies in the Demographic History of London, 1670-1830* (Cambridge: Cambridge University Press, 1993), p. 94.

outbreaks of smallpox were confined to certain periods of the year.[5] Buchan also claimed that smallpox was a disease that affected children more than adults, although those with a bad diet, a lack of proper exercise and who 'abound with gross humours' were also at risk.[6] Scholars have also evaluated the relationship between smallpox and these factors. Duncan, Duncan and Scott found that the incidence of epidemic diseases such as smallpox and plague were related to the size of the population.[7] A total of 37 epidemics were identified in London between 1660 and 1799.[8] Far fewer epidemics are known to have occurred in smaller, rural areas of England. Duncan, Duncan and Scott's research contains three major conclusions which are relevant to this study. First, smallpox epidemics were linked to the population size. Migration may have exacerbated the incidence of disease, as in London, which experienced high and frequent migration. Second, smallpox was a seasonal disease, and outbreaks peaked in spring and summer.[9] Third, the existing records demonstrate that smallpox was not a disease that was exclusive to childhood.

Although much attention has been paid to smallpox in its epidemic form, evidence shows that it was not only an epidemic disease. Cases of smallpox have been identified in relative isolation, generally in smaller populated areas, and such outbreaks were often not thought of as epidemics.[10] In epidemics, the average age of smallpox infection was between two to five years. Those who survived smallpox did not catch it again.

Treatment for smallpox was necessary throughout the eighteenth century despite the development of inoculation, as not everyone could afford the inoculation process, and nor did everyone want it. The non-naturals, including air, diet, and exercise, were

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[5] Buchan, *Domestic Medicine*, 7th edn, p. 169.
[6] Ibid.
[7] S.R. Duncan, C.J. Duncan, and Susan Scott, 'The Dynamics of Smallpox Epidemics in Britain, 1550-1800', *Demography*, 30:3 (1993), 405–23.
[8] Ibid., p. 405.
[9] Ibid., p. 411.
[10] Alfred Jay Bollet, *Plagues & Poxes: The Impact of Human History on Epidemic Disease* (New York: Demos Medical Publishing, 2004), p. 76.

important aspects of the treatment of smallpox if the patient had not been inoculated. In addition to being essential in the regimen of health, the non-naturals were also important in the inoculation process, highlighting the centrality of this theory to eighteenth-century medicine. The inoculation process was highly personalised and therefore the individual's bodily constitution and balance were taken into account. Diet, in its widest possible sense, was crucial for keeping the body in balance. Patients were advised to eat a good diet and get a moderate amount of exercise. The non-naturals theory argued for the use of medicines when the regimen failed to keep an individual healthy. Medicines which could reverse the imbalance were necessary, and the physician needed to know the properties of these medicines and their particular ingredients in order to restore balance.[11]

Inoculation against smallpox was introduced around 1715, and the process was complex. The inoculation process was split into three distinct phases: preparation, operation and aftercare.[12] The preparation included putting the patient on a regimen and preparing their body and constitution for the inoculation operation. The preparation could also include bleeding and purging, if the physician felt that these aspects of the patient's constitution needed to be rebalanced.[13] The operation itself consisted of cutting the flesh and placing smallpox matter into the body. The aftercare often continued the regimen that was started prior to the operation, and continued for varying amounts of time per patient. Physicians conducted experiments to prove the efficacy of inoculation and in order to try to shorten and standardise the inoculation process, with the Suttons being the first of many to conduct trials and offer smallpox inoculation to the poor. The Suttons sought to bring down the cost and reduce the length of time required to complete the treatment of smallpox, and thereby made inoculation more accessible to the poor.[14] The Foundling

[11] Vivian Nutton, *Ancient Medicine* (London: Routledge, 2004), p. 248.
[12] Buchan, *Domestic Medicine*, 7th edn, pp. 183–88.
[13] Ibid., p. 183.
[14] J.R. Smith, *The Speckled Monster: Smallpox in England, 1670-1970, with Particular Reference to Essex* (Chelmsford: Essex Record Office, 1987).

Hospital allowed William Watson, a physician, to undertake smallpox inoculation trials. His trials showed the importance of personalisation within the inoculation process. Watson's experiments also show the emphasis placed on the outcomes of smallpox inoculation. Survival was not the only concern; Watson also sought to achieve a reduction in scarring.

This chapter contributes to our knowledge of contemporary understandings of smallpox and the treatments which sufferers received. It teases out the relationship between inoculation, isolation and ideas of prevention, and furthers our understandings of the process of inoculation and the importance which physicians placed on identifying significant dimensions of the process. This chapter demonstrates that physicians were particularly interested in the speed and efficacy of inoculation, which are factors which have previously been underplayed in scholarship about smallpox inoculation.

2.1: The treatment of smallpox

The hot method of treatment was dominant prior to the 1660s, and was based on the idea that heat helped to expel the 'innate material cause of smallpox from the body'.[15] As part of the hot method, the patient was placed in bed and wrapped in bed linen and clothing that was not changed or washed throughout the duration of the disease. Windows were kept closed and fires lit. The patient was prevented from receiving any fresh air. The patient was then believed to sweat out the disease. However, Thomas Sydenham questioned this theory in the 1660s, and devised the cold method which allowed the patient as much fresh air as they could get. In addition, Sydenham advised that bed linen and clothing should be light and changed often. Cool drinks were also prescribed.[16] The cool treatment was much more in line with the ideas of the non-naturals, as they used diet,

[15] Ibid., p. 30.
[16] Ibid.

air, and exercise to assist in the rebalancing of the body and the restoration of the patient's health. Although throughout the eighteenth century there was some disagreement over whether the hot or cold method was best for patients who suffered from smallpox, the majority of medical texts, including those by Buchan and George Armstrong, suggested that keeping the patient cooler was the best course of action.

Treatment was needed throughout the eighteenth century despite the development of inoculation. From 1743 onwards, children at the Foundling Hospital were inoculated, but not always immediately upon their admission to the Hospital. Many caught smallpox whilst out at nurse, and smallpox is a recurrent theme within the surviving correspondence from nurses to the Hospital during the eighteenth century. In January 1764, smallpox was present in Reading and was described as being 'of a bad sort'.[17] As a result of such outbreaks, treatment was needed for children and adults who suffered from smallpox before they were inoculated. Buchan argued that to treat smallpox the patient had to be

> kept cool and easy, allowing him to drink freely of some weak diluting liquors. … He should not be confined to bed, but should sit up as much as he is able, and should have his feet and legs frequently bathed in lukewarm water. His food ought to be very light; and he should be as little disturbed with company as possible.[18]

Although this was not exactly the cold method as described by Sydenham in the previous century, Buchan advised that the patient be kept cool and light rather than warm. Armstrong pointed out that when the fever was high in infant patients who had smallpox, he bled them. Although Armstrong gave no reason for bleeding infants with fever, too much blood was thought to be the cause of a fever. Therefore, by bleeding the infant with a fever, the amount of blood in the body was lessened and it was believed the fever would decrease. Although Armstrong wrote that those who suffered from smallpox should be cared for within the home rather than an institutional setting (including the dispensary),

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[17] LMA, A/FH/A/6/1/17/3/7, Letter to Mr Collingwood from John Collet, January 3, 1764, in Clark, *Correspondence of the Foundling Hospital Inspectors*, pp. 176-7.
[18] Buchan, *Domestic Medicine*, 7th edn, p. 171.

he made few remarks on the disease.[19] However, Armstrong did describe the remedies he thought should have been given to children if they suffered side effects of smallpox such as opthalmia. In cases of opthalmia, Armstrong directed that warm water should be used to wash the child's legs, and the child was to be rubbed completely dry. Again, neither the hot or cold method was recommended in full. Instead, Armstrong recommended that the water should be at a moderate temperature.

The general health of children, and the regimen which they followed, were believed to make smallpox survival easier. Nicholas Rosen von Rosenstein claimed that 'if one gets affected with the small-pox, when the body is well prepared, the stomach and bowels being well cleansed just a little before, then one may expect to get through the disease more easily'.[20] Rosenstein's point was also advocated by Buchan and Armstrong.[21] According to Rosenstein, a diet of meat, a 'free life' with regards to eating and drinking, and over-strenuous exercise were all causes of the 'bad kind' of smallpox.[22] In contrast to Buchan and Armstrong, Rosenstein claimed that 'Englishmen, who bathe much in cold water, have got severe pocks'.[23] Although Buchan and Armstrong did not suggest the use of cold water, they proposed the cooling rather than heating methods. Rosenstein did not claim that hot water should be used, but he argued that too much cold bathing caused bad cases of smallpox. Rosenstein further noted that 'a cold breath of wind, a cold napkin, or a plate, may cause the pustules to subside or re-enter the body; a cold drink, or soured whey, will sometimes supress the spitting'.[24] The fever of the child who suffered from smallpox should, Rosenstein believed, dictate the temperature at which the room was kept. If the child had a high fever the room should be kept cool, if

[19] George Armstrong, *Account of the Diseases Most Incident to Children*, p. 94.
[20] Nicholas Rosen von Rosenstein, *The Diseases of Children, and Their Remedies*, trans. by Andrew Sparrman (London: T. Cadell, 1776), p. 72.
[21] Buchan, *Domestic Medicine*, 7th edn, p. 169; Armstrong, *Account of the Diseases Most Incident to Children*, p. 92.
[22] Rosenstein, *Diseases of Children*, p. 72.
[23] Ibid., p. 73.
[24] Ibid., p. 83.

there was little or no fever present the room should be warmer but not too warm.[25] Buchan did not claim that the temperature in the room needed to be dictated by the degree of fever suffered by the patient. He merely remarked that the room had to be cool as opposed to hot or cold. Fresh air, again, was advocated by Buchan, but he acknowledged that the air should not enter the room as a draught.[26]

Moderation was a fundamental emphasis in the treatment of smallpox. On the one hand, Rosenstein believed that if a child suffered from a fever, too much heat could push the disease to develop further, whilst too much cool air could also increase the virulence of the disease if there was no fever. On the other hand, Buchan did not feel that there was a link between the fever of the child and the optimum temperature of the room in which they were treated. Therefore, moderation was the best form of treatment in terms of the atmosphere in which the patient recovered. Temperature, as noted throughout the regimen, was an important aspect of the care of children with smallpox. Too hot and the patient developed a fever that would push the pustules out, thus creating a greater chance of scarring. Too cold and the patient would catch cold.[27] Buchan also argued that children who made themselves hot, through exercise, or 'running, wrestling, &c.' were likely to cause the smallpox to develop.[28] The temperature of the air, of food and drink, and of the child itself were likewise important, for the same reasons, hence the guidance of the physicians that they should be kept cool rather than hot or cold.

Cleanliness was advocated by practitioners as an important aspect of smallpox treatment, and clean linen and clothing were noted by Sydenham, Rosenstein, Buchan and Armstrong as being particularly important. Buchan argued that cleanliness was a vital aspect of the raising of a healthy child at the beginning of his *Domestic Medicine*, and

[25] Ibid.
[26] Buchan, *Domestic Medicine*, 7th edn, pp. 174-5.
[27] Ibid., p. 172.
[28] Ibid., p. 169.

reiterated this idea in his recommended treatment for smallpox. Buchan argued that dirty bed linen had ill consequences, and wrote that:

> the linen becomes hard by the moisture which it absorbs, and frets the tender skin. It likewise occasions a bad smell, which is very pernicious both to the patient and those about him, besides the filth and sordes which adhere to the linen being reabsorbed, or taken up again into the body, greatly augment the disease.[29]

Rosenstein also argued that clean linen was needed, and that the clean linen needed to be 'well dried'.[30] Buchan's reference to the smell that was released by dirty linen is also significant, as it reflects eighteenth-century beliefs that smells could spread disease.[31] People feared the bad matter that was absorbed by the linens would re-infect patients and make the smallpox worse. Rosenstein's further recommendation that the linen needed to be well dried is connected to the perceived need for patients to be dry, as wetness whilst sick was believed to increase the illness.[32]

The behaviour and constitution of the mother or nurse was also perceived to cause illness in children, including smallpox.[33] Buchan blamed delicate mothers, irregular fathers, and diseased nurses for the sickness and weakness of their children. He argued that wholesome food, proper clothing and healthy parents were required to raise healthy children emphasising the importance of the non-naturals in eighteenth-century child care.[34] Rosenstein agreed, and claimed that, in addition to exposure to draughty air and clothing that was too tight, the diet of the nurse could lead to a child catching smallpox.[35] Yet despite all of the risks to children who suffered from smallpox, children were

[29] Ibid., p. 173.
[30] Rosenstein, *Diseases of Children*, p. 85.
[31] Anne Eriksen, 'Cure or Protection? The Meaning of Smallpox Inoculation, ca. 1750-1775', *Medical History*, 57:4 (2013), 516–36, (p. 528).
[32] Rosenstein, *Diseases of Children*, p. 85.
[33] Buchan, *Domestic Medicine*, 7th edn, p. 175.
[34] Ibid., p. 5.
[35] Rosenstein, *Diseases of Children*, p. 73.

recognised to be more likely than adults to survive a bout of the disease if they maintained a proper regimen.[36]

During the eighteenth century, the majority of smallpox patients were treated within the home. Ian Mortimer argued that the infrequency of medical assistance in the treatment of smallpox in Kent was because medical practitioners did not want to treat those who were highly infectious.[37] Contemporary physicians like Armstrong contended that infectious diseases should be treated at home rather than in an institution. Thomas noted that isolation hospitals were regularly set up in areas that suffered from smallpox outbreaks in order both to keep all infected people together and to cut down on the treatment bill.[38] Mortimer reasserted Thomas' point and suggested that some individuals, particularly the poor, had no say over where or how they were treated for smallpox. Some were removed to pest houses against their wishes.[39] However, Armstrong also wrote that smallpox patients should be attended to within the home by physicians, suggesting that medical practitioners may have attended the homes of smallpox patients.[40]

Domestic receipt books provide the clearest evidence of how smallpox patients were treated. The books indicate the types of ingredients which were available in the home, and how they were mixed to create remedies. Domestic receipt books often included remedies for the treatment of smallpox. The remedies in these books were frequently different to those in the texts of Buchan, Armstrong and Rosenstein, and even, to an extent, different from the remedies in John Wesley's *Primitive Physick*. Many of the domestic receipt books made no reference to the influence of air, diet or exercise in the treatment of smallpox, in contrast with the emphasis on these aspects within the

[36] Rosenstein, *Diseases of Children*, p. 73; John Symcotts, *A Seventeenth Century Doctor and His Patients* (Streatley: The Society, 1951), pp. 18-19.
[37] Mortimer, *Dying and the Doctors*, p. 191.
[38] E.G. Thomas, 'The Old Poor Law and Medicine', *Medical History*, 24:1 (1980), 1–19.
[39] Mortimer, *Dying and the Doctors*, p. 199.
[40] Armstrong, *Account of the Diseases Most Incident to Children*, p. 95.

medical texts hitherto discussed. This omission may be attributed to a number of factors. First, the domestic receipt books were largely written for and by women, and concentrated on the practical rather than the theoretical aspects of medical care. The remedies were tried and tested methods that were passed around and added to by the owners of the texts, as shown by the many examples of different handwriting in the books. Second, and perhaps most importantly, many of the domestic receipt books included recipes for cookery as well as receipts for physic. The recipes were usually separated out in printed texts, but in the handwritten texts the two often overlapped, and occasionally a combination of cookery and physic recipes appeared on the same page. For example, one page of Mrs Meade's book contains a remedy for worms in children and a recipe to make custard.[41] The inclusion of cookery recipes indicates that a healthy regime was considered to be an important aspect of general family care. In printed texts, such as that written by Mary Kettilby, the need to keep the family healthy through the consumption of healthy foods was made explicitly clear.[42]

Prevention of disease was in large part considered to be effected by a healthy way of life. The evidence from domestic receipt books demonstrates that the daily consumption of medicines during an epidemic of infectious disease, such as plague or smallpox, was also thought to prevent individuals from becoming sick. In 1685, Elizabeth Jacob included a recipe that she claimed could both cure the plague or smallpox, and prevent the disease if it had not yet been contracted. The recipe consisted of a drink made up using sage and rue aqua vitae, and the patient was to 'keep this as your life'.[43] The same drink that was used to cure the plague and smallpox was recommended as a preventative measure and the reader was advised to take a spoonful a day. A second receipt in the same book provided another remedy for both the cure and prevention of

[41] Wellcome Library, MS.3500, Meade, p. 11.
[42] Kettilby, *Collection of above Three Hundred Receipts*; Markham, *English House-Wife*.
[43] Wellcome Library, MS.3009, Jacob, Elizabeth (& others), c.1685, p. 69.

smallpox. This receipt directed the preparer to boil spring water and figs together, and to drink the mixture two to three times per day.[44] The pairing of plague and smallpox in the receipt books is intriguing, as although the two diseases are vastly different, the treatment and preventative measures recommended to combat them were very similar.[45] Both diseases were public health issues, and both led to significant mortality.[46] Mortimer argues that plague and smallpox were afflictions that were treated, initially at least, within the home, which was why they were often grouped together.[47]

The place of the non-naturals in the treatment for smallpox endured throughout the eighteenth century. Many of the same treatments were given to those who suffered from inoculation-induced smallpox as well as to those who contracted smallpox prior to inoculation. The anonymous author of a seventeenth-century English medical notebook, written around 1663, identified that 'it is not good to forward so give them either hot or cooling things', thus indicating how the non-naturals were acknowledged and used in both domestic and professional medicine.[48] The author argued that if the patient was too hot, they would 'bring them [the pocks] out too fast and too full', but if the patient was kept too cool, 'they [the pocks] would be kept in by that means'.[49] In 'A Book of Phisick', written anonymously in 1710, the advice given for a smallpox patient was to keep them moderately hot when the pocks developed.[50] Clothing was to be placed upon the patient, but no more clothing than had been worn before the illness developed. A flannel cloak was used to cover their arms, but the patient was not to be kept so warm that they began to sweat.[51] No reason was given as to why the patient should not sweat, but it is clear that sweating was considered to be bad for the patient and should therefore be avoided.

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[44] Wellcome Library, MS.3009, Jacob, p. 104.
[45] Mortimer, *Dying and the Doctors*, pp. 190–203.
[46] Ibid., p. 202.
[47] Ibid., pp. 200–201.
[48] Wellcome Library, MS.6812, English Medical Notebook, 17th century, pp. 58–9.
[49] Ibid., p. 59.
[50] Wellcome Library, MS.1320, Book of Phisick, p. 166.
[51] Ibid.

Isolation was another practice used to prevent the spread of smallpox, having long been a strategy deployed to minimise the spread of the plague. Forced isolation occurred during plague years from 1348 in Milan, from 1518 in London, and from 1557 in the Netherlands.[52] Entire families, and anyone who attended to the sick, were locked up in the home until all had died or the survivors could prove their good health.[53] Aside from the children in the Foundling Hospital and the workhouses, nothing suggests that children were forcibly removed from their parents when they suffered from smallpox. There is also no evidence that children were moved to isolation houses when smallpox struck. In domestic settings, and echoing the isolation practices of the Foundling Hospital, Buchan advised that children who suffered from smallpox should not be placed in the same bed as other smallpox sufferers. Buchan argued that children who suffered from smallpox should not even be placed in the same room as each other, as their proximity was liable to aggravate the smell and heat of the room and cause the disease to worsen.[54] These isolation practices continued into the nineteenth century. In a case highlighted by Jane Humphries, a family caught up in the smallpox epidemic of 1833 isolated a child who had contracted smallpox.[55] In addition to isolating the child, the father of the family used the pustules from his child to inoculate the other children of the family. Humphries' example demonstrates how both isolation and inoculation techniques were used in order to protect the wider family from smallpox.

Ideas of isolation have slightly different meanings. Isolation involved as a total, physical separation between the sick and the healthy, such as that practised during the plague in Venice where an island was used to house the infected.[56] The term quarantine

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[52] Joseph P. Byme, *Daily Life during the Black Death* (Westport, CT: Greenwood Press, 2006), p. 133.
[53] Paul Slack, *The Impact of Plague in Tudor and Stuart England* (Oxford: Clarendon Press, 1985), p. 203.
[54] Buchan, *Domestic Medicine*, 7th edn, p. 172.
[55] Humphries, *Childhood and Child Labour*, p. 132.
[56] Jane L. Stevens Crawshaw, *Plague Hospitals: Public Health for the City in Early Modern Venice* (Farnham: Ashgate, 2012), p. 7.

derives from the Latin for forty, and originally referred to a period of segregation.[57] Isolation gives the impression of a permanent solution to infectious diseases, whilst quarantine imposed a period of isolation in order to determine whether or not an individual was infectious. As smallpox was spread by face-to-face contact, infected bodily fluids, and contaminated clothing and bed linen, the confinement of smallpox sufferers to an isolation hospital could help prevent the spread of the disease.[58] Buchan argued that those with the disease should be kept away from those without, although his proposal was not couched in the language of isolation or quarantine. Armstrong sought to exclude sick, infectious children from his dispensary. This attitude, like isolation and quarantine practices, was underpinned by the recognition that diseases could be contagious.[59]

Although focused on the plague, Richard Mead's *Short Discourse Concerning Pestilential Contagion and the Methods used to Prevent It*, published in 1722, discussed similar methods to those used to prevent the spread of smallpox. Mead noted that there were two main concerns with regards to infectious diseases: the first was to separate 'the sick from the sound'; the second was to clean 'well the houses which had been infected'.[60] Mead argued that when a person became ill, they should be taken from their homes and be placed into a 'Lazaretto, or Hospital, built for that purpose [isolation]'.[61] These steps were taken to prevent the spread of smallpox in the later part of the eighteenth century. In addition to placing the sick individual in isolation, Mead ordered that others who resided within the sick individual's home had to burn their clothes and be admitted into quarantine. This step was not followed during outbreaks of smallpox. However, pest or

[57] Stevens Crawshaw, *Plague Hospitals*, p. 7.
[58] Kathleen M. Brown, *Foul Bodies: Cleanliness in Early America* (New Haven, CT: Yale University Press, 2009), p. 126.
[59] Armstrong, *Account of the Diseases Most Incident to Children*, p. 94.
[60] Richard Mead, *A Short Discourse Concerning Pestilential Contagion: And the Methods to Be Used to Prevent It*, 8th edn (London: Printed by Sam. Buckley, 1722), p. xxxiii.
[61] Ibid.

isolation houses were used throughout the country, and the movement of sufferers was often restricted in an attempt to control the spread of smallpox.[62]

Although Genevieve Miller argued, in her 1956 book on the subject, that there was no way of stopping smallpox once it was in a community, isolation and inoculation were identified by eighteenth-century writers as effective measures for the prevention of the further spread of the disease. However, these practices were often difficult to implement.[63] May argues that whilst removal to the pest houses was often compulsory for the poor, the rich were encouraged rather than ordered to go into isolation upon diagnosis of smallpox.[64] Isolation was not carried out uniformly in the community in the way that it was in the Foundling Hospital or workhouse, where a ward or building was set aside for the purpose. Despite advice to the contrary, given the available domestic living space for most families, it was likely that all of the sick individuals in one household had to be placed in the same room and perhaps even the same bed, rather than being further separated.[65] This form of isolation led to those who had never suffered from smallpox themselves, but who were acting as carers, being left open to infection and the further spread of the disease.

Smallpox patients were treated in their homes without any form of isolation by Dr William Brownrigg of Cumbria. Brownrigg's approach emphasises that there was no standardised treatment for smallpox during the eighteenth century. Brownrigg's casebooks offer clear examples of the ways in which smallpox was treated, whereas medical textbooks may or may not have been followed in practice. An examination of the actual treatments given to children with smallpox by just one physician demonstrates the variety of treatments which were used in the period. Of the 13 child-patients recorded

[62] Mortimer, *Dying and the Doctors*, pp. 199–200.
[63] Miller, *Adoption of Inoculation for Smallpox*, p. 38.
[64] Maisie May, 'Inoculating the Urban Poor in the Late Eighteenth Century', *The British Journal for the History of Science*, 30:3 (1997), 291–305, (p. 294).
[65] Miller, *Adoption of Inoculation for Smallpox*, p. 39.

within Brownrigg's casebooks, four suffered from smallpox.[66] From the evidence of the casebooks, it seems that Cumbria avoided the major smallpox outbreaks that affected larger, more urban areas such as Newcastle, York and London. Brownrigg did not inoculate the children of Cumbria, nor did he treat those who contracted the inoculated smallpox. His treatments were solely for those who had caught smallpox in the natural manner.

In 1737, Brownrigg treated a child of 17 months who was too young to receive inoculation.[67] The second and third children that Brownrigg treated, in the same year, were a boy aged four and a half and an infant who later died of the disease. A further child, aged five and a half, was also treated by Brownrigg.[68] The two older children were old enough to have been inoculated. However, May offers an argument which could explain why they had not been. Inoculation was a long, drawn out, and expensive process.[69] The parents of these children were able to pay for a physician and were evidently not too poor, but the length of time it took to complete the inoculation process may have had an impact upon their decision not to have the children inoculated. Instead, the 'general inoculation' of rural areas, which occurred in the latter part of the eighteenth century and was described by May, had not yet begun. And as Cumbria appeared to have escaped large outbreaks of smallpox during the period in which Brownrigg was treating these patients, there was a less urgent requirement for mass inoculation to take place.[70] Therefore, Brownrigg had to treat the natural smallpox when it occurred.

Brownrigg believed that treatment for natural smallpox in children needed to be personalised. The first child was prescribed a light diet and 'instead of medicament there was Sal Prunella simply dissolved in juice and distilled water. The treatment was

[66] Brownrigg, *Medical Casebook of William Brownrigg*.
[67] Ibid., p. 7.
[68] Ibid, pp. 7, 25, 28.
[69] May, 'Inoculating the Urban Poor', p. 294.
[70] Ibid.

moderate'.[71] However, the mildness of this child's suffering led the editors of Brownrigg's casebooks to suggest that this child may have contracted the far less dangerous chicken pox rather than smallpox.[72] The third of Brownrigg's patients, the infant, was not given any kind of regimen treatment, probably due to the child's age. For the two older children, Brownrigg used different remedies in his attempts to treat and cure the smallpox, demonstrating that each individual remedy was tailored to the patient, children included. For the child aged four and a half, opium was mixed with spring water as a way of relieving the symptoms of smallpox. Brownrigg's treatment cleared up the child's eyes, his fever dissipated on the following day, and by the tenth day of this remedy the child was said to have been cured.[73] The older child, aged five and a half, was given mercury water first, and a purgative later. The mercury cure was common in the treatment of the pox despite its toxicity. A second purgative was required later, and the complexity of this child's treatment when compared to the younger child is shown in the disparity in number of visits Brownrigg made to the two patients.[74] A tincture of rhubarb, elecampane root, liquorice, cochinel, and cinnamon water was given to the older child, but no regimen of diet or air was prescribed. Brownrigg's remedy contrasted to the remedies of Buchan and Armstrong, where a strong regimen was provided for a sick child with smallpox.[75] The child had clearly been sick for some time before Brownrigg was brought in. Brownrigg may have believed a simple balancing of the humours could not cure this child, and more drastic remedies were required. However, despite Brownrigg's efforts, the child died. Brownrigg did not provide a regimen for the children who suffered from smallpox, but instead resorted to purges of varying kinds and relief of symptoms. Every aspect of the child's illness was recorded by Brownrigg, indicating the importance of all the

[71] Brownrigg, *Medical Casebook of William Brownrigg*, p. 7.
[72] Ibid.
[73] Ibid., p. 8.
[74] Ibid., p. 25.
[75] Brownrigg, *Medical Casebook of William Brownrigg*, p. 25; Armstrong, *Account of the Diseases Most Incident to Children*, p. 93; Buchan, *Domestic Medicine*, 7th edn, p. 97.

symptoms, suggesting that treating the symptoms was just as important as treating the disease itself.

2.2: The inoculation process

Genevieve Miller, writing in 1957, argued that there was a need to retrace the earlier history of the subject of smallpox inoculation in order to prove that generalisations about the topic were no longer valid. She claimed that the role of non-medical scientists in inoculation had been underplayed by previous scholars of smallpox inoculation, and that the history of inoculation had been written mainly from the point of view of physicians.[76] Miller posited that fear of the smallpox, and a desperate need to control the disease, were the primary factors behind the adoption of the highly controversial inoculation process.[77] More recently, Anne Eriksen has proposed that the idea of eradication was not at the forefront of physicians' minds when conducting inoculation. Rather that the aim was 'to lead people as safely as possible through what was regarded as an inevitable disease'.[78] Leading on from Eriksen's proposal, the examination of experiments of the inoculation process will allow a discussion of how inoculation developed in the eighteenth century, and how it was changed by the experiments conducted by the Suttons and Watson. In addition, the inoculation process itself and the ways in which it was administered outside of experiments shows the importance that was placed on prevention of the disease or, at the very least, as Eriksen noted, a way of leading people safely through a dangerous disease.

Prior to the development of the smallpox inoculation in England in the 1720s, parents sometimes 'bought the smallpox' for their children. This involved children being

[76] Miller, *Adoption of Inoculation for Smallpox*, pp. 21–4.
[77] Ibid., p. 25.
[78] Eriksen, 'Cure or Protection?', p. 516.

exposed to the smallpox virus in order to catch and overcome a mild bout of the disease. Bennett writes that this practice ended when the smallpox strain became too virulent, and Gabrielle Ashford argues that it was a local practice in Ireland rather than a generalised provision for protection.[79] Smallpox inoculation was introduced across Europe in the eighteenth century, and large areas of the continent witnessed opposition to inoculation.[80] The British Royal Family, the Hanoverians, influenced German society as they did British, leading to the spread of inoculation. However, the practice did not take hold in Germany as it had across the North Sea.[81] In fact, the inoculation method was not widely embraced in Europe, although experiments involving smallpox inoculation and Foundling children took place in Geneva.[82] Miller noted that these experiments followed in the footsteps of English experiments on Foundling children, although the Foundling experiments undertaken by Watson occurred a decade after the experiments in Geneva.[83] Small experiments also took place in France and Hungary, and the translation of Maitland's *Account of Inoculating the Smallpox* into Italian led to an increase in the number of inoculations in Italy.[84] Despite attempts by the *philosophes* to convince the public of the success of inoculation in England, Turkey and China, public trepidation prevented universal adoption of the smallpox inoculation in France.[85]

Philanthropy played a significant role in the early spread of inoculation and in the 'dispensary movement' which played a key role in the later diffusion of inoculation.[86]

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[79] Michael Bennett, 'Inoculation of the Poor against Smallpox in Eighteenth-Century England', in *Experiences of Poverty in Late Medieval and Early Modern England and France*, ed. by Anne M. Scott (Abingdon: Routledge, 2016), pp. 199–223, (p. 201); Gabrielle Ashford, 'Children's Smallpox and Inoculation Procedures in Eighteenth-Century Ireland', in *Growing Pains: Childhood Illness in Ireland 1750-1950*, ed. by Alice Mauger and Anne Mac Lellan (Dublin: Irish Academic Press, 2013), pp. 19–36, (p. 23).
[80] Miller, *Adoption of Inoculation for Smallpox*, p. 172.
[81] Ibid., pp. 179–80.
[82] Ibid., p. 201.
[83] Ibid.
[84] Ibid., p. 173.
[85] Elsie Lipkowitz, 'The Physicians' Dilemma in the 18th-Century French Smallpox Debate', *Journal of the American Medical Association*, 290:17 (2003), 2329–30, (p. 2329); Miller, *Adoption of Inoculation for Smallpox*, p. 180.
[86] May, 'Inoculating the Urban Poor', p. 298.

Inoculation was expensive and time-consuming, so initially it was only undertaken by the upper classes. Poorer individuals lacked both the time and money required to complete the inoculation process. In contrast to Miller's arguments, May posits that fear alone was not the principal reason why smallpox inoculation was undertaken. Whilst the attitude of the public was a contributory factor to the implementation of inoculation schemes, the aims, motives and methods of those who promoted inoculation were more important.[87] Inoculation was brought to England in the early 1720s, and was famously advocated by Lady Mary Wortley Montagu. She had used inoculation to prevent her son from contracting the disease whilst the family were living in Turkey. Upon the family's arrival back in England, Montagu requested that a Scottish surgeon, Charles Maitland, inoculate her three year old daughter.[88] Maitland stalled, concerned about the possible consequences of 'an experiment altogether new and uncommon here, in a cold season'.[89] However, Maitland later claimed in his *Account of the Inoculating the Small Pox* that the inoculation process was safe in any season and he need not have worried.[90] Yet Maitland did worry, and he requested two other physicians be present to consult both on the health of the Montagu child and to witness the inoculation so they could attest to its efficacy.[91] Maitland was clearly apprehensive that the practice of inoculation had the potential to be ineffective at best, and fatal at worst. Despite his concerns, Maitland did inoculate the child and described the process in his book.

In addition to inoculating the Montagu child, Maitland carried out an experiment on condemned prisoners at Newgate.[92] He inoculated six prisoners, ranging in age from nineteen to thirty six, three male and three female. One male had already suffered from

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[87] Ibid.
[88] Miller, *Adoption of Inoculation for Smallpox*, p. 71.
[89] Charles Maitland, *An Account of Inoculating the Small Pox* (London: J. Downing, 1722), p. 9.
[90] Ibid.
[91] Ibid.
[92] Ibid., p. 20.

the smallpox whilst in prison, the other five had never suffered from the disease. No preparation was provided for the prisoners. Incisions were made in both the arms and legs, but within three days, Maitland feared the matter had been bad, and started the experiment again, with fresh matter and fresh incisions. On the first day, pain was noted in the arms and legs of the patients, and spots began to develop on the second day. Maitland recorded that the prisoners experienced mild symptoms of smallpox, but was not concerned for their health. By the fourth day, Maitland reported that the incisions that were made in the arms and legs were producing pus, but that all the patients continued well. Over a week after the inoculation, one of the prisoners, a woman named Mary North, was treated with a purgative for colic, which she developed after using cold water to bathe. This treatment for colic does not appear to have had any impact upon the success of the smallpox inoculation. All five prisoners who had not suffered smallpox prior to the inoculation survived, with Maitland claiming 'The Thing has been successful on all the five far beyond my expectation, considering their age, Habit of body and circumstance'.[93] Maitland acknowledged the body, age and circumstance of the patients, and had assumed that the inoculation would not work because of these. He failed to provide any preparation or regimen for the patients to follow after the inoculation operation, but despite this, the patients survived, showing that preparation and regimen were not a necessary part of the inoculation process. Despite discovering that preparation and regimen were not necessary, they continued to be included throughout the century.

Razzell found that inoculation was widely used in various parishes across Scotland. However, Brunton has argued that inoculation was in general use in a few areas, and that only a small percentage of the population was inoculated.[94] As in England,

[93] Ibid., p. 25.
[94] P.E. Razzell, *The Conquest of Smallpox: The Impact of Inoculation on Smallpox Mortality in Eighteenth Century Britain* (Firle: Caliban Books, 1977), p. 95; Deborah Brunton, 'Smallpox Inoculation and Demographic Trends in Eighteenth-Century Scotland', *Medical History*, 36 (1992), 403–29, (p. 406).

inoculation was largely taken up by the upper classes, whilst the poor could not afford or did not wish to get their children inoculated unless an epidemic was feared or underway.[95] Therefore, inoculation only tended to be practised during epidemics.[96] In some areas, the memory of past outbreaks stimulated interest in inoculation. For example, the Scottish islands adopted the practice of inoculation quickly as they had lost over half of their populations in several previous epidemics. Due to the makeup of the islands, these epidemics were different to those suffered in mainland Scotland, England and Europe.[97] Epidemics swept the islands once every few years and decimated the population so the islanders recognised the value of inoculation even outside of epidemic periods. Whilst the poor in England could use the Poor Law to gain access to free inoculation in the latter part of the eighteenth century, this provision was not available for those in Scotland. A lack of provision for inoculation left large numbers of the poor vulnerable to smallpox. Funds were made available during times when smallpox was threatened, although outside of epidemic periods free inoculation remained unavailable to the poor.[98] Michael Bennett claimed that the plight of the poor when they suffered from smallpox was 'truly pitiable' due to the lack of nursing and amenities, whilst Gabrielle Ashford argues that the wealth of a family 'impacted significantly on the mode of treatment children received', both when they suffered from smallpox caught in the natural way and when they underwent inoculation.[99]

The inoculation process was a complicated one that was personalised rather than standardised, although attempts were made through experiments to standardise the process. The process took place over several weeks, both before and after the actual

[95] Brunton, 'Smallpox Inoculation', pp. 407-9.
[96] Ibid., p. 407.
[97] Ibid., p. 409.
[98] Ibid., p. 411.
[99] Bennett, 'Inoculation of the Poor against Smallpox', p. 199; Ashford, 'Children's Smallpox and Inoculation Procedures', p. 20.

inoculation operation took place. Air, diet, exercise, cleanliness, purging and bleeding were all important components of the inoculation process. The preparation for inoculation was very similar to the treatment given to those who suffered from natural smallpox, demonstrating the importance attached to the non-naturals in the maintenance and restoration of the balance of health. Prior to the standardisation of inoculation in the later part of the eighteenth century, each individual who was inoculated was prescribed a highly personalised regimen of air, diet, exercise and cleanliness. The personalisation of the regimen depended entirely on the overall health, diet and constitution of the patient, and was expensive. Prior to the inoculation operation, patients were often given a regimen to follow, although the Montagu child inoculated by Charles Maitland was not given any kind of preparatory regimen prior to her inoculation operation due to her 'clean habit of body, and the very cool regular diet she had been kept to for her infancy'.[100] Diet was an important aspect of the inoculation process, and was controlled before, during, and after the inoculation operation. Maitland in particular noted the diets of two brothers he inoculated against smallpox, and how the 'fat, foul, gluttonous boy' was ill, whilst the younger brother was much more amenable to a strict diet. The younger brother had 'a clean habit, moderate appetite, and [was] easily goveren'd during the whole process'.[101] A good diet as part of a regimen was advocated by Maitland, and these two boys were held up as examples rather than the Newgate experiments, despite the success of the prisoners' inoculation.

The Suttons undertook experiments in the 1760s in an attempt to standardise the inoculation process and bring down prices so the poor could afford to be protected against smallpox. In 1769, Daniel Sutton, the son of Robert Sutton and the developer of the standardised inoculation method, noted from experiments conducted in 1763 that 'the

[100] Maitland, *Account of Inoculating the Small Pox*, p. 9.
[101] Ibid., p. 28.

preparatory diet is to consist of any of the following articles, best suited to the respective age of the patient'.[102] Thus, Sutton argued that the age of the patient should influence the diet they were given. Although Sutton tried to standardise the inoculation process, some personalisation was still thought necessary, in particular for children. Sutton suggested that tea and dry toast, milk and porridge, along with items such as honey and bread, were acceptable foods for breakfast. For lunch, plain foods which were neither hot nor cold, such as bread-pudding, rice or millet pudding, plum or plain pudding, milk porridge, or rice milk were acceptable. For dinner, spoon meats were to be eaten. For children, supper included tea or milk and water with dry toast, and nothing further.[103] Sutton explained that children under preparation needed thinner food, and that their food should be restricted in quantity. His instructions on the preparation of children were clearly linked with the non-naturals. Children being wet-nursed were to be restricted in the amount of milk they were given, and their nurses were to abstain from hot foods such as:

> High-seasoned, inflammatory food, and spirituous liquors; and to keep their minds easy as to the even; for should they, from any imaginary cause, be kept in continual anxiety or agitation of spirits, their milk will of consequence become viated and unwholesome.[104]

Buchan, writing several years after Sutton, noted that a greater alteration of diet for children was unnecessary unless they had been 'accustomed to a hotter diet, who are of a gross habit, or abound with bad humours'.[105] The need to alter a child's diet if they were accustomed to 'a hotter diet' falls in line with Buchan's argument that children should not be treated using the hot method. Buchan did not advise the use of the cold method either. Instead, he considered that a cooling method, rather than one which was either hot or cold, was the best compromise. This approach prevented the side effects of the hot

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[102] Daniel Sutton, *The Inoculator; Or, Suttonian System of Inoculation, Fully Set Forth in a Plain and Familiar Manner.* (London: Printed for the author, by T. Gillet, 1796), p. 92.
[103] Ibid., p. 93.
[104] Ibid.
[105] Buchan, *Domestic Medicine*, 7th edn, p. 188.

method, such as sweating, and also prevented the patient from becoming sick due to cold air and draughts. If this occurred, then children needed to be kept on a 'spare diet', and the food was to be of a cooling nature.

Sutton argued that the diet of the nurse was very important in the preparation of children who were being wet-nursed, and recommended the following diet be used:

> Til the eruptive symptoms are terminated, and the incision past the crisis, because an premature indulgence in nutritious animal food, or in strong drinks, just before, or during the eruptive fever, may raise it to an ungovernable eight, and produce a dangerous crop of pustules, should there be a natural tendency to it.[106]

Thus, Sutton acknowledged the importance of diet and argued that the consumption of animal products should be restricted.

In 1769, William Watson, MD to the Foundling Hospital, attempted to discover exactly what part of the by now more standardised inoculation process was the most important. He undertook his trials exclusively on the Foundling children, in contrast to the Suttons who experimented on whomever they could, even going so far as to offer free inoculation to the poor in order to prove the effectiveness of their regimen. Watson's experiments on the Foundling children were carefully laid out and documented, and whilst his results are now questioned, at the time they were not. Abstinence from animal products was by far the most important aspect of Watson's experiments. The children were prevented from eating and drinking animal products for varying lengths of time, and the diets of the children were consistently assessed throughout the experiments.[107]

On 12 October 1769, 31 children were inoculated after having refrained from eating animal food for ten days. The children continued to avoid animal food throughout the course of the inoculation process.[108] Watson's second trial, which began on 1

[106] Sutton, *Inoculator*, p. 93.
[107] Watson, *Account of a Series of Experiments*.
[108] Ibid., p. 7.

November of the same year, also required the children to abstain from eating animal food before and throughout the inoculation process.[109] In the third trial, which began on 24 November 1769, Watson varied the length of abstinence from animal food. Of 20 subjects, 15 abstained for 12 days before inoculation, whilst the remaining five abstained for only three days before inoculation.[110] The experiment generated variable results. Upon fresh incisions made two weeks after the initial incision for the inoculation, one child was found to have no inflammation present, and the incisions themselves were invisible after three days. The child in question had been one of the five who had only abstained from animal food for three days before the inoculation occurred.[111] However, another child who had abstained from animal food for only three days suffered from the most pustules of all the children involved in this group.[112] From these experiments, Watson concluded that a vegetable diet before and during the inoculation process was the most effective preparatory diet.[113] The number of days for which patients should avoid meat and animal products remained unclear, as one child who avoided animal products for three days showed few signs of inflammation whereas another child had the most pustules.

The use of a vegetarian diet by Watson is intriguing, as vegetables were not always thought of as being healthy due to their wetness and coldness. Gentilcore argues that at the beginning of the early modern period, vegetarian diets, such as that advocated by Watson, were viewed as a danger to health. In contrast to Gentilcore's argument, Joan Thirsk found evidence of positive views of vegetables from around 1500.[114] The eating of vegetables in England during the early modern period was based on availability rather than on a recognition of the nutritional benefits of vegetables, and had a seasonal

[109] Ibid., p. 12.
[110] Ibid., p. 17.
[111] Ibid., p. 18.
[112] Ibid.
[113] Ibid., p. 36.
[114] Joan Thirsk, *Food in Early Modern England: Phases, Fads, Fashions 1500-1760* (London: Continuum, 2007), p. 284.

dimension. Vegetables were 'perceived as qualitatively watery, viscous, cold and devoid of nourishment'.[115] Vegetables were thought to produce 'thin blood', which allowed excess moisture to accumulate in the body, and cause illness.[116] However, the benefits of a vegetarian diet were also advocated by some writers. Thirsk's comment that it was 'common folk' who ate vegetables during the early part of the early modern period perhaps suggests that the need to eat overrode the humoral beliefs of the early modern period.[117] By the eighteenth century, vegetables were recognised as a source of good health and were widely used in preparations for medicines, as in the inoculation process. Vegetables allowed the body to be fully cleansed and prepared, and to be in the best position to successfully survive smallpox inoculation.

In addition to diet, fresh air was believed to be a necessary element of the inoculation process. However, air or water that was too cool could cause problems. Mary North, one of Maitland's prisoners, demonstrated the adverse reactions caused by cold water. She was washed in cold water whilst under the inoculation process, and as a result, Maitland believed, developed a very violent colic.[118] Sutton acknowledged suggestions that he had forced his patients into air that was too cold for them, yet in response he claimed that he had not forced too cold air on patients who could not stand it. Sutton also claimed that he had no satisfactory conclusions to offer as to whether air in general actually worsened the disease.[119] The need for fresh air was also something that Watson concluded from his experiments, as he allowed children to go outside during the inoculation process provided the weather was fine.[120] Bad weather, such as rain and cold air, was thought to have an adverse effect upon inoculation. Rain and cold air affected

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[115] David Gentilcore, *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800* (London: Bloomsbury, 2016), p. 115.
[116] Ibid.
[117] Thirsk, *Food in Early Modern England*, p. 285.
[118] Maitland, *Account of Inoculating the Small Pox*, p. 31.
[119] Sutton, *Inoculator*, p. 41.
[120] Watson, *Account of a Series of Experiments*, p. 21.

patients, as wet and cold conditions were believed to make illness worse. Subjects were advised to keep cool but not cold, particularly in the inflammatory state of the disease, and to avoid heated rooms and liquors.[121] Buchan agreed that air was a necessary part of a healthy way of life as well as when dealing with smallpox. Like Watson, Buchan advocated that individuals should be kept cool rather than hot or cold. Similarly, heat was thought to affect children who were placed in the same bed together when they suffered from either the natural smallpox or inoculated smallpox. Therefore, Buchan recommended separate beds which allowed more fresh air to circulate.[122] In this way, air and coolness were both highlighted as being very important to the care of children afflicted with either natural or inoculated smallpox, in contrast to the long held belief that heat was required to sweat out a fever and elements of the disease.

Unlike diet and air, bleeding and purging were only sometimes part of the inoculation process. The ideas and beliefs of individual physicians and patients dictated whether patients were bled and purged prior to their inoculation. Maitland bled one of his child patients, believing him to have 'a warm and sanguine complexion'.[123] Yet, the two brothers, one of whom was unhealthy and one healthy, were not bled prior to inoculation. For Maitland diet and air were clearly more important components than bleeding. Rosenstein advocated bleeding, even for children, when they suffered from the smallpox.[124] However, bleeding for children was recommended only when there was no other medical intervention possible. Bleeding when no other treatment was available is something that few other medical authors suggested, although Buchan did point out that 'sometimes, bleeding has a surprising effect in raising the pustules after they have subsided, but it requires skill to know when this is proper'.[125]

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[121] Ibid., p. 36.
[122] Buchan, *Domestic Medicine*, 7th edn, p. 188.
[123] Maitland, *Account of Inoculating the Small Pox*, p. 11.
[124] Rosenstein, *Diseases of Children*, p. 87.
[125] Buchan, *Domestic Medicine*, 7th edn, p. 176.

Other aspects of preparation were included according to the physician and his particular beliefs. Buchan suggested that a clyster should be used rather than bleeding. Rosenstein also noted that a clyster should be given to those with smallpox.[126] By contrast, Watson had a clear plan of which children were going to be given preparatory medicine in addition to the diet they were given. Two experiments were undertaken, with each experiment containing three sub-groups of children. The first group of children in Watson's first experiment, in addition to their access to air and diet, were given 'powder consisting of twelve grains of jalap and four of calomel'.[127] The preparation was taken twice before inoculation and once afterwards, and no other medicines were used in the preparation. The second group of children in the first experiment were given 'two purges of infusion of senna and syrup of roses, before the punctures were made, and one four days after'.[128] The third group of children within the first experiment were inoculated without any medical preparation.[129] The second experiment undertaken by Watson included the same diet as the first. In this second batch of children, the variolous matter used to inoculate was different, and the children were given only four grains of calomel as a preparation with no further additives.[130] The second group of children in the second experiment took two doses of infusion of senna and syrup of roses twice before the incision was made and once afterwards.[131] The third group were, once again, not given any kind of medical preparation. Diet and air were thought to be sufficient. Some children became unwell, and suffered large outbreaks of pustules, whilst some, having undertaken the exact same preparations and diet, escaped without any problems. Watson's experiments did not find a preparatory regime that worked consistently for every child. As none of the regimens worked for each child, Watson may have come to the conclusion

[126] Rosenstein, Diseases of Children, p. 88.
[127] Watson, *Account of a Series of Experiments*, p. 8.
[128] Ibid., p. 10.
[129] Ibid., p. 11.
[130] Ibid., p. 13.
[131] Ibid., p. 14.

that each child was different, and therefore needed a personalised regimen for smallpox inoculation. Yet his experiments did suggest to him that a meat-free diet, cool, fresh air, and plenty of water, were important aspects of the inoculation preparation.

2.3: The inoculation operation

Once the preparatory stages had been completed, inoculation itself was carried out. In the inoculation operation, an incision was made in the arm or leg of the patient and the variolous matter of smallpox, taken from an infected person, was inserted into the cut. In the original Graeco-Turkish method, patients were inoculated via a superficial scratch rather than an incision, and Maitland originally used this method to inoculate the Montagu child in the 1720s. However, in his experiments on the Newgate prisoners, Maitland created large, long and deep incisions. Smith felt that this change of approach 'was to be one of the key factors responsible for retarding the progress of inoculation in Britain'.[132] A long, deep incision took longer to heal than a short, shallow scratch, which added time to the overall inoculation process, as the practitioner kept the patient under observation until the wound healed.[133]

Watson used different types of variolous material when he conducted his inoculation experiments in order to ascertain what type of smallpox material caused the most favourable and worst outbreaks of pocks on the children. Different kinds of variolous material were available for smallpox inoculation. The first group of children were inoculated by Watson with variolous matter 'in its ichorous or watery state, taken from a person who had the disease in what is called the natural way'.[134] His second experiment used 'purulent matter taken from the pustule of the inoculated small-pox'.[135]

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[132] Smith, *Speckled Monster*, p. 33.
[133] Ashford, 'Children's Smallpox and Inoculation Procedures', p. 23.
[134] Watson, *Account of a Series of Experiments*, p. 7.
[135] Ibid., p. 13.

The third experiment used variolous matter 'from inoculation, and in its perfectly concocted state … taken from the inside of the hand of a strong, hard skinn'd boy, where two or three pustules remained after the rest were dry'.[136] This variolous matter was not from fresh smallpox but from smallpox at the point where the pocks were drying, although a few remained 'fresh'.[137] The fact that the boy was strong and 'hard-skinn'd' suggests that Watson thought the strength of the boy may have transferred to the inoculated children and helped them to survive the inoculation operation. Here, Watson attempted to discern whether variolous matter taken from someone suffering from natural smallpox or the inoculated smallpox produced more pocks on the inoculated children. His main focus appears to have been on whether the children were scarred or not as a result of inoculation, and the potential for scarring was a significant concern for those who contracted smallpox either naturally or via inoculation. Children with smallpox scarring often encountered difficulties in securing apprenticeships as, although it offered a visible sign of immunity, smallpox scarring was often unpleasant to look at, and these children were more difficult to place than those with little or no scaring.[138] Watson's experiments established that the type of smallpox that was used in the inoculation operation was of no concern, as each child reacted differently to each of the types of variolous material used.

2.4: The Suttons and general inoculation

The inoculation programmes undertaken by the Suttons in the 1760s represent the beginning of a period of experimentation to standardise the smallpox inoculation process. The Suttons began mass inoculation processes, and their work was known about throughout the country. The Suttons refused to share their methodology, and left other

[136] Ibid., p. 17.
[137] Ibid.
[138] Levene, *Childcare, Health and Mortality*, p. 166.

physicians and apothecaries to develop their own methods through experimentation. Although the experiments undertaken by the Suttons are not of primary concern in this study, their existence is an important aspect of the history and development of inoculation in the eighteenth century. Whilst the Dispensary movement encouraged the inoculation of the lower classes, some individuals, such as the Suttons, offered inoculation services for a fee.[139] Robert Sutton was practising inoculation in the 1750s, and inoculated his son Daniel in 1757.[140] By the time Daniel Sutton wrote in 1796, he himself had been treating and inoculating against smallpox for over 40 years. Smith has discussed the importance of the Suttons in the development and popularisation of inoculation.[141]

As with practitioners at the Dispensaries, Robert Sutton developed a 'milder and safer treatment' for the inoculation of smallpox.[142] The Suttons treated patients in their homes or in purpose-built buildings, and they wanted to help the lower classes of society. Robert Sutton's method was inoculation without incision.[143] Daniel Sutton moved away from his father and set up his own inoculation business in the early 1760s, covering Suffolk and Essex. The locals reacted angrily, claiming that the area had long been free of smallpox, and because they believed that Daniel Sutton, through the use of a smallpox house, would reintroduce the disease to the area. The reaction of the locals shows the fear that contemporaries had of smallpox. In an attempt to encourage inoculation, Sutton allowed some poor families to be inoculated for free, and it was the success of free inoculations in 1763 that allowed his business to prosper. Sutton used long preparations in the lead up to the actual inoculation, in contrast to the developments made in the dispensary movement.[144] All the same, Sutton was able to end a major outbreak in a

[139] Smith, *Speckled Monster*, p. 68.
[140] Sutton, *Inoculator*, p. iii.
[141] Smith, *Speckled Monster*.
[142] Ibid., p. 68.
[143] Ibid.
[144] Smith, *Speckled Monster*, p. 75; May, 'Inoculating the Urban Poor', p. 298.

nearby town in 1766 by inoculating all those who had not yet suffered from the disease.[145] Both Peter Razzell and David Van Zwanenberg have argued for the importance of the Suttonian method, and claimed that the technique of inoculation limited the spread of smallpox during major outbreaks. Razzell claimed that 'the success of the Suttonian method enhanced the reputation of inoculation in general and accelerated its practice'.[146] Although Smith's research focused on the area of Essex, he acknowledged that outbreaks of smallpox in this area were markedly different to those in London, as many of Essex's towns and villages went long periods of time without a smallpox outbreak.[147] However, Razzell argues that Daniel Sutton failed as an inoculator in London on the basis that he was unwilling to abandon preparation and its associated medical costs in the way that dispensary physicians did. Other physicians who were willing to cut down on preparation to simplify the inoculations developed successful inoculation programmes in London.[148]

The Suttons' successes in inoculation allowed those previously unable to undertake inoculation to be protected against smallpox in mass inoculation processes, and began the process of experimentation with inoculation. The process was shortened, and Daniel Sutton provided inoculation through subscription in the area or for free.[149] Once inoculation became cheaper and quicker, the Poor Law Guardians were more able to add inoculation to their existing methods of controlling and treating smallpox, and institutions such as workhouses, hospitals, and dispensaries were able to provide the procedure to the poor on a greater scale than before.[150] Despite the work of the Suttons in the 1760s, opportunities for further development and standardisation of the process remained.

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[145] Smith, *Speckled Monster*, p. 77.
[146] Razzell, *The Conquest of Smallpox*, p. 59; David Van Zwanenberg, 'The Suttons and the Business of Inoculation', *Medical History*, 22 (1978), 71–82, (pp. 77–8).
[147] Smith, *Speckled Monster*, p. 173.
[148] Razzell, *Conquest of Smallpox*, p. 65.
[149] Van Zwanenberg, 'Suttons', p. 75.
[150] Deborah Brunton, 'Pox Britannica: Smallpox Inoculation in Britain, 1721-1830' (unpublished doctoral thesis, University of Pennsylvania, 1990), p. 137.

2.5: Inoculation of the Poor

The belief that smallpox could not just be controlled, but eradicated, by the use of inoculation was a compelling reason to inoculate the poor.[151] Inoculation of the poor in institutions was a form of preventative medicine that emerged thanks to the cheaper and quicker method of inoculation developed by the Suttons.[152] May argues that the simplification of the inoculation process shortened the length of time an individual was unable to work, and cut down on costs, making inoculation a more viable prospect when compared with caring for the sick, treating the disease and burial.[153] The Foundling Hospital began to inoculate its children around 1743, and a Smallpox Hospital opened in London in 1746, and began to provide inoculations for free in the 1750s.[154] General dispensaries opened in cities such as Chester, Newcastle, Leeds and Manchester in the 1770s, and inoculation was offered to the poor through these dispensaries.[155] In these ways inoculation was brought to the masses, not just confined to the upper classes who could afford to pay.

The Newcastle Dispensary offered inoculation against smallpox to the poor of the city, and provided a financial incentive to parents who had their children inoculated. Opened in October 1777, the Newcastle Dispensary extended its services to 'the diseases of children, and to every distemper'.[156] The dispensary in Newcastle operated differently from other dispensaries around the country, particularly George Armstrong's Dispensary for the Infant Poor, in that Newcastle admitted patients that suffered from smallpox and other infectious conditions. The aims of the Newcastle Dispensary were both to relieve the suffering of the poor and sick, and 'to restore the families of the poor to health, and

[151] May, 'Inoculating the Urban Poor', p. 305.
[152] Brunton, 'Pox Britannica', p. 135.
[153] May, 'Inoculating the Urban Poor', p. 294.
[154] Brunton, 'Pox Britannica', p. 70.
[155] May, 'Inoculating the Urban Poor', p. 301.
[156] Governors, *Account of the Newcastle Dispensary*, p. 6.

usefulness'.[157] As a result of the number of individuals who suffered and died from smallpox, the Newcastle Dispensary began to offer inoculation against the disease. The first batch of inoculations were carried out in April 1786, with inoculations performed 'every spring and autumn', to take into account the periods at which smallpox infection was recognised to be at its height.[158] Between April 1786 and the end of the Account of the Newcastle Dispensary in 1789, 788 individuals were inoculated. Of this number, only three died as a result of the inoculation. Regardless of the small number of deaths, the records do not discuss how many children were sick or experienced a serious case of the disease. The inclusion of a financial incentive helped the Newcastle Dispensary to inoculate an impressive number of children in a short time.[159]

Newcastle was by no means the only dispensary to offer financial incentives in order to ensure poor children received inoculation. At Chester, Dr John Haygarth also provided money to parents who agreed to have children inoculated, as it was well known that compensation helped to persuade poor parents to have their children inoculated.[160] The money was only available to the poor so it is not clear how many parents did not have their children inoculated because they were not eligible for the money, but could not afford to lose their child's earnings. For the inoculation of one child at Newcastle Dispensary, poor parents were offered 5s; for two children in one family the parents were offered 7s; for three children it was 9s; whilst for four or more children, parents were offered 10s.[161] This amount of money was a considerable incentive towards inoculation, and covered the income the child might lose during the inoculation process.

In addition to inoculating children against smallpox, the Newcastle Dispensary admitted 215 individuals who suffered from smallpox caught naturally, between October

[157] Ibid.
[158] Ibid.
[159] Ibid., p. 7.
[160] Bennett, 'Inoculation of the Poor against Smallpox', p. 219.
[161] Governors, *Account of the Newcastle Dispensary*, p. 7.

1777 and September 1789. The number of individuals admitted to the dispensary with smallpox caught naturally was much smaller than the number of children inoculated against the disease. Of the 215 individuals admitted with smallpox, 161 were cured, and the remainder died.[162] Out of a total number of deaths across all diseases dealt with at the Newcastle Dispensary, the deaths caused by smallpox only accounted for nine per cent, which was low compared with fevers.

The age at which a child was inoculated against smallpox varied across England, according to the views of the person who performed inoculations. As early as 1731, Thomas Fuller advised that children should not be inoculated when teething.[163] Daniel Sutton refused to provide an age at which individuals should be inoculated. Instead, he gave an age range during which individuals should not be inoculated. Sutton believed that inoculation was most inappropriate between the ages of 18 to 28, as during these ages, individuals showed bad reactions, including more pustules and scarring.[164] Children in the Foundling hospital were inoculated upon their return from nurse at around the age of five. The reason children were not inoculated until around five years of age was predominately due to the fact that Watson believed that children, particularly young children, should not be inoculated until they had gained strength.[165] Prior to the age of one the effect of teething along with the inoculation process was thought to lead to fevers and convulsions. In addition to Watson's belief that young children should not be inoculated, infant children were often sent straight out to nurse upon their arrival at the Foundling Hospital. To inoculate them prior to their being sent to nurse would require a significant amount of money and time and pose a danger to the child, particularly if the child was sick upon arrival at the hospital. The London Foundling Hospital was consistent

[162] Newcastle upon Tyne, Tyne and Wear Archives (TWA), HO.ND, Dispensary Annual Reports, 1777-1872.
[163] Thomas Fuller, 'Exanthelmatalogia', in Brunton, 'Pox Britannica', p. 75.
[164] Sutton, *Inoculator*, p. 62.
[165] Watson, *Account of a Series of Experiments*, p. 41.

in its inoculation of its Foundlings, but the Branch Hospitals were less systematic. The first mention of smallpox inoculation at the Ackworth Branch was recorded in April 1762, when five children were admitted for inoculation. At the same time, 11 children with smallpox caught in the natural way were admitted to Ackworth infirmary.[166] Despite inoculation beginning in Ackworth in April 1762, records for many months after this date suggest that large numbers of children still contracted smallpox in the natural way. Therefore these children were clearly not being inoculated as a matter of course upon their arrival in the Ackworth Foundling Hospital. It is possible that those who suffered from smallpox in the natural way contracted it from those who had undergone inoculation as these children were still infectious.[167] The treatment Foundling children received for smallpox at the Foundling Hospital is unclear, as no actual treatment books have survived. Since William Buchan was physician to the Foundling Hospital branch at Ackworth, it is likely that he treated Foundling children with smallpox in the manner he outlined in his *Domestic Medicine*.

2.6: Conclusion

In the eighteenth century, smallpox was a disease that many feared, both for the number of individuals that it killed and because those who survived it were often left scarred and sometimes blind or deaf. Lady Mary Wortley Montagu herself was badly scarred, and lost her brother to smallpox, experiences which led to her having her children inoculated. William Watson, when he undertook experiments on children in the Foundling Hospital, was concerned with the need to prevent scarring on the Foundling children in order to assist them in gaining apprenticeships when they came of age. The scarring was often a barrier to securing employment, which made it a significant concern.

[166] LMA A/FH/Q/70, Monthly sickness, September 1759 to May 1770.
[167] Brunton, 'Pox Britannica', p. 184.

Prior to the introduction of inoculation, smallpox was treated by either the hot or cold method. Eighteenth-century physicians suggested that a compromise be made between the extremes of hot or cold and recommended that patients be kept cool. Smallpox was discussed intensively in domestic receipt books and in medical texts written by physicians. The remedies suggested varied, but the cooling aspect of a regimen was emphasised, indicating the rejection of both the hot and cold methods. The non-naturals and cleanliness were important aspects of the treatment of smallpox caught in the natural way. The belief that dirty linen and clothing could aggravate a case of smallpox prevailed throughout the century.

The Suttons dedicated themselves to the development of an inoculation process that was safe, quick, and cost effective. They achieved their aim, and were able to inoculate on a mass scale, both when smallpox threatened, and in times when smallpox was not present. The Suttons played a prominent role in starting to protect the poor from smallpox. Watson's trials at the Foundling Hospital dealt with smallpox scarring and Watson also wanted to shorten the inoculation process and discover which parts were most effective. As a result, he changed the regimen and the inoculation operation itself. Watson's trials did not achieve his original goal, since he did not find one simple way of inoculating every child. Instead, Watson concluded that personalisation was key to the inoculation of children.

Following the success of the Suttons' inoculation programmes and the processes of inoculation undertaken within the Foundling Hospital and workhouses, dispensaries began to inoculate the poor. Some dispensaries only inoculated when necessary, some inoculated rarely, and some inoculated on a regular basis. The dispensaries at Newcastle and Chester both paid poor parents for permission to inoculate their children. The need for a payment to be provided to poor parents shows the importance of the child within the family unit as a wage earner, and also highlights how the Poor Law and dispensary

governors felt about smallpox and the need to protect the most vulnerable in society from this disease. The development of inoculation was an opportunity to protect children from a feared disease. The poor were often inoculated as part of a scheme, either within an institution such as a dispensary or workhouse. Nonetheless, wealthier and higher status groups in society were also affected by smallpox.

At the end of the eighteenth century, smallpox was still a disease that caused high mortality rates. There was still a lack of standardisation in treatments for, and inoculation against, smallpox. All the same, experimentation with and evaluation of different inoculation techniques highlights the extent of medical responses to smallpox well before Edward Jenner trialled the first vaccination against smallpox in 1796. Furthermore, the experiments discussed in this thesis have demonstrated that eighteenth-century physicians understood the importance of regimen, both to the inoculation process and to the treatment of smallpox. A moderate, balanced regimen was prescribed to all individuals who suffered from smallpox, and was used in the preparation for, during, and after the inoculation process. Whilst personalisation remained a necessary component in the treatment of and prevention against smallpox throughout the eighteenth century, standardisation did prevail in the employment of regimen.

Chapter 3: The care of children with fevers

Fevers were common conditions in the eighteenth century, affecting children and adults alike. Evidence of fevers can be found in many places, including domestic receipt books, medical treatises, and the records of dispensaries, infirmaries, workhouses and the Foundling Hospital. This chapter will focus on fevers most likely to affect children. Although fevers were medical conditions in their own right, they were also frequently symptoms of other conditions such as whooping cough and smallpox. Fevers were often infectious, and sometimes individuals with fevers were prevented from accessing medical institutions such as infirmaries. Fevers were mostly treated within the home. Dispensaries provided outpatient care for some children and adults who suffered from fevers. In these cases, treatment within the home had a professional dimension. The severity of fevers varied but some types, like typhoid fever and scarlet fever were sometimes fatal.

This chapter will begin by investigating the different types of fevers that were documented in eighteenth-century sources. An analysis of the contemporary views of fevers is followed by discussions of the symptoms of fevers and the care of children with fevers within the home, using domestic receipt books and Wesley's *Primitive Physick.* Texts by physicians such as Cadogan, Armstrong and Buchan will also be examined to shed light on how children with fevers were cared for within the home. The records of institutions such as the workhouses, dispensaries and the Foundling Hospital will be examined to analyse the care provided to children who suffered from fevers in an institutional setting. Finally, this chapter will analyse scarlet fever, a type of fever that predominately affected children. A major outbreak of scarlet fever in the 1770s led to a number of tracts being written on the condition, which makes it a useful case study through which to analyse the care of children who suffered from fevers in eighteenth-century England.

As with many of the other diseases described by William Buchan in his *Domestic Medicine*, fevers were thought to be caused by a number of factors, including 'errors in diet, unwholesome air, violent emotions of mind, suppression of usual evacuations, external or internal injuries, and extreme degrees of heat or cold'.[1] These causes relate to ideas about the non-naturals and humoral imbalance. It is noteworthy that Buchan did not claim that the bad habits or constitutions of parents and nurses were the cause of fevers in children. However, Dr William Brownrigg, a physician from Cumbria, did blame one case of fever on the fact that the child's father suffered from tuberculosis during the conception of the child.[2] Given the prominence of humoral ideas, diet and exercise were included in the regimen recommended for the treatment of children with fevers, and cleanliness and hygiene also featured in the responses.

Fevers were relatively easy to diagnose compared to conditions such as whooping cough and skin complaints. Fevers, either as stand-alone conditions or as symptoms of other diseases, were recognised easily. This chapter evaluates general fevers, intermittent fevers, putrid fevers, scarlet fever and ague, or malaria. Fever was the main symptom of the latter condition. Scarlet fever was relatively easy to diagnose, as the skin of the sufferers turned scarlet. Whilst the identification of fevers can be tricky, the large number of fever cases in infirmaries, dispensaries, workhouses and the Bills of Mortality make fevers an important condition to study.

Fevers were a common cause of death in the eighteenth century, and the physician William Oliver, writing in 1794, noted that no disease was as frequent and fatal as fevers.[3] Fevers were amongst the most frequent causes of death in Foundling Children, named as causing up to 14 per cent of deaths.[4] Fevers also caused significant morbidity in the

[1] Buchan, *Domestic Medicine*, 7th edn, p. 111.
[2] Brownrigg, *Medical Casebook of William Brownrigg*, p. 39.
[3] William Oliver, *A Practical Essay on Fevers. Containing Remarks on the Hot and Cold Method of Their Cure* (London: T. Goodwin, 1794), p. 5.
[4] Levene, *Childcare, Health and Mortality*, p. 157.

Foundling Hospital, where Levene has found that up to 16 per cent of children there suffered from fevers during the eighteenth century.[5] A 1763 outbreak of 'eruptive fever' was linked by Levene to a recent outbreak of measles, which exemplifies that fever was often linked to other diseases, and was a symptom of many.[6] The Bills of Mortality give a sense of the impact of fevers at this time. Although general and more specific fevers were not always differentiated, the Bills show that a large proportion of deaths were caused by fevers.[7] In 1741, 23.4 per cent of deaths were attributed to fevers, compared with death from smallpox and measles at 6 and 0.13 per cent respectively.[8] The Bills of Mortality shows periods when deaths from fevers were especially numerous, such as between 1739 and 1742. Elevated mortality may have stimulated interest in the treatment of fevers.[9]

Fevers have been discussed in scholarship on institutions such as workhouses, the Foundling Hospital and dispensaries, and in studies of the living and working conditions of children during the eighteenth century. However, due to the relatively wide scope of previous work in this field, fevers are not the primary focus of any of these studies. Wohl's monograph focused upon conditions in which fevers were a symptom, rather than upon fevers themselves.[10] Likewise Woodward discussed general fevers and the admission of fever cases to infirmaries, but then concentrated on smallpox and cholera.[11] McClure's analysis of the Foundling Hospital focused on the treatment of fevers rather than the number of children who suffered and died from them. Individuals who suffered from fevers were sometimes excluded from hospitals, dispensaries, and infirmaries. Care was provided more readily by workhouses. At St Margaret's Workhouse, inmates with

[5] Ibid., p. 160.
[6] Ibid., pp. 159–60
[7] Millar, *Collection of the Yearly Bills of Mortality*.
[8] Landers, *Death and the Metropolis*, pp. 349–50.
[9] Millar, *Collection of the Yearly Bills of Mortality*, n.p.
[10] Anthony S. Wohl, *Endangered Lives: Public Health in Victorian Britain* (London: J.M. Dent & Sons, 1983), pp. 117–41.
[11] Woodward, *To Do The Sick No Harm*.

fever, the pox, and the itch accounted for 79 per cent of the infirmary population.[12] Fever remains a condition that scholars often mention in passing. A focused assessment of the care and treatment of children who suffered from fevers is necessary. This chapter aims to give fevers the same platform as conditions such as smallpox and whooping cough, as fevers were a danger to life, particularly those such as scarlet fever and ague. This chapter analyses the ways in which fevers were understood and treated during the eighteenth century, with a focus on the infectious nature of the condition identified. Several specific types of fever which affected children, including scarlet fever, are examined closely. The growth of interest in scarlet fever reflects contemporary concerns about the danger posed by the disease, and the desire of physicians to treat children who suffered from fevers.

3.1: Contemporary views of fever

In the eighteenth century, many different conditions were described as 'fevers'. Consequently, the diagnosis of fevers was challenging for the eighteenth-century medical practitioner.[13] Table 3.1 shows which fevers were discussed by eighteenth-century writers

	Fever	Intermittent	Scarlet	Ague	Hectic	Teething
Cadogan	X					X
Armstrong	X		X		X	X
Buchan	X	X		X		X
Rosenstein	X		X	X		X
Underwood	X		X	X	X	
Hey	X					
Brownrigg	X					
Bills of Mortality	X		X	X		X

Table 3.1 Types of fevers mentioned by physicians, 1700-1800.

[12] Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 23.
[13] Alun Withey, 'Health, Medicine and the Family in Wales, c. 1600-c. 1750' (Unpublished doctoral thesis, University of Swansea, 2009), p. 26.

and medical practitioners. The table demonstrates that all of these practitioners discussed a general 'fever', whereas specific fevers received patchy attention. Teething has been included in the table of fevers because many children who suffered from teething also suffered from fever. Teething and fevers were associated with each other but were not necessarily thought to be part of the same process. William Buchan discussed a group of 'general fevers', along with intermittent fevers, or the ague, acute continual fevers, the slow or nervous fevers, malignant, putrid, or spotted fever, military and remitting fever.[14] Scarlet and bilious fever were included under the heading of measles, suggesting that Buchan believed these two fevers were part of the measles condition. John Wesley also noted several types of fever in his *Primitive Physic*. 'A Fever', indicating a generalised fever, burning, continual, hectick, a high fever, and intermitting fevers were all listed.[15] George Armstrong, the physician who founded the Dispensary for the London Poor, noted in the preface to his text *An Essay on the Diseases Most Incident to Children* that he

> Left [the acute fevers of children] almost untouched. First because of their analogy with those in grown persons, which have been repeatedly treated of by some of the most eminent physicians; and secondly, because any observations, which I have hitherto been able to make on these complaints that might be worth communicating are not yet sufficiently confirmed by experience, so as to render the publishing of them either satisfactory to myself, or fairly to be recommended to the public.[16]

Thus, unlike Buchan and Wesley, Armstrong did not see the point of discussing childhood fevers because he considered them to be common and similar to those of adults. His preface also suggested that he did not feel he had firm views that he wished to publish.[17] Despite his comments, Armstrong's essay included a section on the hectic fever that occurred during the teething process, and he recorded in his account of the dispensary that 'almost all the children that are brought to the Dispensary, are subject, more or less,

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[14] Buchan, *Domestic Medicine*, 7th edn.
[15] Wesley, *Primitive Physick*, 5th edn.
[16] Armstrong, *Account of the Diseases Most Incident to Children*, p. xi.
[17] Ibid.

to the hectic fever'.[18] The inclusion of fever that affected children during teething and measles indicates that Armstrong sought to focus on childhood fevers, rather than fevers which also affected adults. Fevers affected large numbers of children during the eighteenth century, but they were not exclusively conditions of childhood. A variety of fevers affected children throughout the eighteenth century, and scarlet fever attracted most attention during the latter part of the century.

3.2: Symptoms of fevers

Fevers were noted regularly in domestic receipt books and medical casebooks, as well as being the subject of specific treatises.[19] In his text on fevers first published in 1757, John Huxham discussed solids and fluids, the condition of the blood in the patient and fevers themselves. In a similar vein to Buchan and Armstrong, Huxham identified several specific fevers including simple and complex inflammatory fevers, intermitting fevers, the differences between a 'slow nervous, and a putrid malignant fever', and putrid, malignant, and petechial fevers.[20] Cattarhal fever, or influenza, was noted in the casebooks of the Leeds surgeon, Dr William Hey. Hey's records of an epidemic in 1772 noted that the epidemic only lasted a few weeks, but that the fever remained in those individuals who suffered from asthma or who became consumptive as a result of the fever.

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[18] Ibid., pp. 68–70; 182.

[19] Edward Edwards, *The Cure of All Sorts of Fevers* (London: T. Harper, 1638); John Huxham, *An Essay on Fevers. To Which Is Now Added; A Dissertation on the Malignant, Ulcerous, Sore Throat*, 5th edn (London: J. Hinton, 1767); William Oliver, *A Practical Essay on Fevers. Containing Remarks on the Hot and Cool Methods of Their Cure. Wherein The First Is Rejected, and the Last Recommended. To Which Is Annex'd, a Dissertation on the Bath-Waters* (London: Printed for T. Goodwin, 1704); Rosenstein, *Diseases of Children*; Robert James, *A Dissertation on Fevers, and Inflammatory Distempers. To Which Are Now First Added, From Papers Which He Was Preparing to Publish before His Death, A Vindication of the Fever Powder, and a Short Treatise on the Disorders of Children*, 8th edn (London: Francis Newberry, Jr., 1778); Mary Kettilby, *A Collection of above Three Hundred Receipts in Cookery, Physick and Surgery for the Use of All Good Wives, Tender Mothers, and Careful Nurses. By Several Hands. The Sixth Edition. To Which Is Added, a Second Part* (London: Printed for the executrix of Mary Kettilby, 1746); Woolley, *Queen-like Closet*.

[20] Huxham, *Essay on Fevers*, contents page.

An increase in body temperature was the main symptom of a generalised fever which writers noted although they also commented on how the patient would often feel cold. Buchan, in his *Domestic Medicine*, gave the most complete overview of the symptoms of a fever.[21] In addition to the increase in the temperature, Buchan described a 'frequency of the pulse, loss of appetite, general debility and a difficulty in performing some of the vital or animal functions'.[22] Great thirst, nausea, anxiety and weariness were also included in the symptoms for fever outlined by Buchan. He described the general fever as follows:

> as a fever is only an effort of nature to free herself from an offending cause, it is the business of those who have the care of the sick, to observe with diligence which way Nature points, and to endeavour to assist her operations. Our bodies are so framed as to have a constant tendency to expel or throw off whatever is injurious to health. This is generally done by urine, sweat, stool, expectoration, vomit, or some other evacuation.[23]

Buchan saw fever as a way in which a body threw off an imbalance of some sort, an indication of the continued prominence of humours and the non-naturals in medical ideas in the eighteenth century. The description of fevers and of the symptoms which patients displayed remained relatively consistent throughout the eighteenth century.

Symptoms of diseases were not often noted in domestic receipt books, with the exception of the anonymously authored 'A Book of Physick'. This text did record some symptoms for the general fever: 'a quick pulse, a white tongue, hot flesh and a thirst'.[24] The quick pulse, hot flesh and thirst are recurrent details in medical texts, although the white tongue is not mentioned elsewhere.

Like general fevers, more specific fevers often had the same initial symptoms. However, specific fevers, such as scarlet fever, ague, intermittent and malignant fevers frequently had additional symptoms which allowed them to be identified and

[21] Buchan, *Domestic Medicine*, 7th edn, pp. 111–16.
[22] Ibid., p. 111.
[23] Ibid., p. 112.
[24] Wellcome Library, MS.1320, Book of Phisick, p. 46.

differentiated from the general fevers. Scarlet fever, for example, was thought to be similar to measles. To distinguish the two conditions, Rosenstein used the spots that appeared on the patient's face around the fourth day when they suffered from measles.[25] The scarlet rash helped to differentiate scarlet fever from the more general fever. Rosenstein described the rash as follows: 'almost the whole body grows as red as scarlet cloth'.[26] Intermittent fevers, along with remitting and continual fevers, were noted by Buchan to be 'attended with cutaneous eruption or topical inflammation, as the small-pox, erysipelas, &c'.[27] Buchan wrote that, for scarlet fever, children could be seized with 'a kind of stupor and epileptic fits'.[28] The name of the fever often reflected how it was experienced by patients. For example, continuous fevers were experienced for a long period of time, and sufferers were also afflicted by some kind of skin lesion. Intermitting fevers left and returned to the patient several times over the course of the general illness. Likewise, a remitting fever 'has frequent increases and decreases, or exacerbations and remissions, but never wholly leaves the patient during the course of the disease'.[29] The further symptoms of an intermitting fever were slightly different, as Buchan noted the coolness of the extremities, and the shivering and shaking of the patient.[30] An acute continual fever was also noted by Buchan to be identified by chills rather than the heat. An acute continual fever was the most dangerous type of fever to be noted by Buchan, and here he stated that 'the best medical assistance ought to be procured as soon as possible'.[31] With acute continual fever, delirium, excessive restlessness and problems breathing were further symptoms, and allowed a clear distinction from any other type of fever.

[25] Rosenstein, *Diseases of Children*, p. 146.
[26] Ibid., p. 158.
[27] Buchan, *Domestic Medicine*, 7th edn, p. 111.
[28] Ibid., p. 194.
[29] Ibid., p. 112.
[30] Ibid., p. 117.
[31] Ibid., p. 125.

3.3: Care within the home

The treatment suggested for fevers during the eighteenth century was a mixture of the hot and cold method. Food, drink, and heat were to be of medium temperature; not too hot and not too cold. Thomas Sydenham advocated the cool method, whilst physicians before him advocated the hot method. As we saw with smallpox treatments, by the eighteenth century it was thought to be dangerous to keep patients either too hot or too cold, thus physicians began to use either warm or cool methods, rather than extreme temperatures of hot or cold.[32] Similarly exercise and access to fresh air were to be light rather than too heavy or non-existent. However, some physicians mixed hot and cold remedies depending on the type of fever that was present, as did Wesley, although he was not a physician.[33] The hot method treatment for fevers, similar to that for smallpox, included hot or warm drinks, the patient to be kept in a warm room with little fresh air.[34] Oliver suggested that the warm regimen, when given every three or four hours, 'exalt[s] the blood too much, raise[s] the fermentations too high, exasperate[s] the disease, and too often, destroy[s] the patient'.[35] Although Buchan did not advocate the hot method for the treatment of fevers, he focused heavily on the coolness of his treatment, with recommendations such as cool drinks, fresh air and exercise.[36] He argued that the heat in which a patient should be placed was never to be 'greater than is agreeable to one in perfect health'.[37] When a patient presented with a cold, the precursor to a fever, he suggested that the body temperature of the patient needed to be increased, using warm water to bathe the feet and legs, to ensure the patient became warm, rather than hot.[38]

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[32] Oliver, *Practical Essay on Fevers. Containing Remarks on the Hot and Cool Methods*, p. 9; Buchan, *Domestic Medicine*, 7th edn, p. 111.
[33] Wesley, *Primitive Physick*, 5th edn, pp. 62–4.
[34] Brunton, 'Pox Britannica', p. 49.
[35] Oliver, *Practical Essay on Fevers. Containing Remarks on the Hot and Cool Methods*, pp. 10–11.
[36] Buchan, *Domestic Medicine*, 7th edn, pp. 113–15.
[37] Ibid., p. 114.
[38] Ibid., p. 152.

When the fever developed, the patient was expected to drink as much cool liquors as required, and to have a stream of fresh air, thus keeping the patient 'moderately cool'.[39] By contrast, the cold method advocated that the patient be kept cold rather than cool, warm, or hot, and asserted that sweating out the fever caused it to be more dangerous. Wesley noted several remedies in his *Primitive Physic*, some of which suggested the cold remedy, some of which suggested the hot. His first remedy for a fever suggested drinking a 'pint and half of *cold water*, lying down in bed'.[40] In contrast, the first remedy under his heading of 'A Continual Fever' suggested that the patient 'drink Sal Prunella, every four hours, in warm water, till it abates'.[41] For a hectick fever, Wesley suggested drinking thin water-gruel, or 'boil'd milk and water'.[42]

There was no standardised method of treatment for those who suffered from fevers, and physicians referred to their knowledge of remedies, the patient's constitution and the advancement of the fever when providing care. The physician Dr William Brownrigg used Sal Prunella as the main ingredient in his treatment of fevers in both adults and children.[43] Dorothy Nicholson, a young child, was prescribed Sal Prunella in 1737 when, after about six or seven days of 'vesicles full of clear fluid broke out without any particular malaise', a fever developed. The Sal Prunella was prescribed to be dissolved in juice and distilled water.[44] When called in after the beginnings of the fever, Brownrigg rarely prescribed Sal Prunella, largely due to the advanced state of the condition. In October 1737, Brownrigg treated a 10 year old girl, Catharine Copeland, for the hectic fever. Copeland had suffered from this fever for the preceding two years, but in October 1737 she 'began to suffer from a similar fever, losing her appetite, with a fast,

[39] Ibid., p. 155.
[40] Wesley, *Primitive Physick*, 5th edn, p. 62.
[41] Ibid., pp. 63–4.
[42] Ibid., p. 64.
[43] Brownrigg, *Medical Casebook of William Brownrigg*, p. 7.
[44] Ibid.

weak pulse and dry skin. The fever was always worse towards evening with sciatic pains and nightly sweatings'.[45] According to Brownrigg, he was called upon to assist the child until January 1738, when the condition was well advanced. His prescription called for an electuary, which included myrrh, gum mastic, powdered crab eyes, wormwood, and syrup of tunica.[46] Copeland eventually survived her fever without the use of Sal Prunella, indicating that Brownrigg believed that certain remedies and mixtures worked better at the beginning of a fever than at the end. In addition to the information given about the patient, Brownrigg recorded that, at the time of the child's conception, her 'father suffered from phthisis'.[47] Phthisis was the term used for what we now know as pulmonary tuberculosis. Brownrigg did not make it clear whether he was claiming that her father's pulmonary tuberculosis caused the fever suffered by the child or not, but as Buchan noted, if the parents were of poor health it was thought that the children would be more likely to suffer throughout childhood and their life.[48]

A further treatment for both the general and more specific fevers was bleeding. Huxham advocated bleeding for fevers, suggesting that 'bleeding … is certainly the first intention in the cure of fevers, that arise from too great a quantity, and too rapid a motion of the blood'.[49] However, Huxham also recognised that the bleeding patients was to be carefully regulated, and he advised that 'the quantity of blood to be taken away is to be determined by the strength of the patient and his pulse; by the intenseness of his fever, heat, and the vehemence of his symptoms, as to pain, difficulty breathing, &c'.[50] Thus, the strength, size, and constitution of the patient – particularly in child patients – was important when bleeding was considered as a treatment option. Buchan points out that

[45] Ibid., p. 39.
[46] Ibid.
[47] Ibid.
[48] Buchan, *Domestic Medicine*, 7th edn, pp. 6–7.
[49] Huxham, *Essay on Fevers*, p. 3.
[50] Ibid., p. 6.

bleeding was necessary in some cases of fever, but not all. He advises that fevers were no longer identified to have been caused by inflammation, and that due to the newer, sedentary lifestyles, 'there is now hardly one fever in ten where the lancet is necessary'.[51] Bleeding, Buchan advised, may be useful for an intermitting fever, but again, as the blood was not in an inflammatory state, it was rarely necessary, and he cautioned that too much bleeding would prolong the disease.[52] In contrast, bleeding was useful in an acute continual fever, but only when the fever was attended with 'a hard, full, quick pulse'.[53] The importance of this operation being conducted quickly was raised by Buchan, but in addition he also noted the importance of taking into account the size, strength and constitution of the patient, as well as the violence of the fever.[54] Buchan felt that a young, weak child would not be best served by bleeding, but a strong, older adult would benefit from the procedure. He made a similar point about the treatment of scarlet fever, writing that if a child was bled when they suffered from this condition, it would likely prove fatal. Rosenstein also noted that bleeding for scarlet fever was not always in the best interests of the child, but he asserted that several points needed to be taken into consideration before deciding whether or not to bleed a child. The patient needed to have too much blood in order to be bled and they needed to be strong, and not weakened by any other disease or medical condition. The patient needed to have undertaken a healthy diet and exercise regimen prior to becoming sick with a fever, particularly scarlet fever, otherwise bleeding was not advised.[55] Cordials, antiseptics and the Peruvian Bark were strongly suggested by Buchan as an alternative to bleeding for the scarlet fever.[56] If a weaker child needed bleeding, Rosenstein suggested the use of leeches behind the ear, to evacuate excess blood, as this would not put the patient in as much danger as if a complete bleeding

[51] Buchan, *Domestic Medicine*, 7th edn, p. 115.
[52] Ibid., p. 119.
[53] Ibid., p. 127.
[54] Ibid., p. 128.
[55] Rosenstein, *Diseases of Children*, p. 87.
[56] Buchan, *Domestic Medicine*, 7th edn, p. 195.

were to take place.[57] Milk warm water or camomile tea was suggested by Rosenstein as an alternative to bleeding for children with scarlet fever. Purges and a clyster were also recommended to treat various aspects of scarlet fever in children.[58]

In addition to treating fevers as diseases themselves, treatment for fevers that were a symptom of another disease also took place. Brownrigg described treating such a fever in a child in 1737 that occurred along with smallpox. A boy of four and a half, Master Nicholson, was 'seized one evening by an intense feeling of heat, severe pains in his head, vomiting, etc.', and was given Sal Prunella as part of a compound remedy. The remedy provided for this child included having 3oz of blood let, and a mixture of the following: 'Barley water 3oz; Milk 3 oz; Crabs eyes, 1 scruple; Sal Prunella, 1 scruple; sugar 3 scruples. Take one spoonful every 3 hours. I prescribed a moderate regimen'.[59] In addition to this mixture, Brownrigg recommended a moderate regimen. The eighth day of Nicholson's illness was, Brownrigg claimed, a day of 'crisis'. At this point, not only did his fever 'burn intensely', his face and eyelids had swelled up, and he could no longer see. He had a restlessness and 'great tossing about'.[60] Yet by the tenth day the child had fully recovered from his illness. Brownrigg commented that the day of crisis was the most important point of the illness. At that point, it was more important to treat the fever rather than the smallpox. This perspective shows that physicians sometimes believed that treating the symptoms was just as important as treating the disease as a whole.

Prior to the provision of care by workhouses, the Foundling Hospital and dispensaries, treatment for fevers was always provided within the home or community. Domestic receipt books offer insights into how fevers were treated and whether the patient was isolated. Treatments suggested in domestic receipt books varied for fevers, as they

[57] Rosenstein, *Diseases of Children*, p. 168.
[58] Ibid.
[59] Brownrigg, *Medical Casebook of William Brownrigg*, p. 8.
[60] Ibid.

did for many other conditions. Writing in 1685, Elizabeth Jacob suggested that, to treat a fever, the patient should drink a pint of barrage water with the juice of ripe oranges, the juice of two lemons and two ounces of syrup of gilly flowers.[61] In contrast, the anonymous author of 'A Book of Physick', written in 1710, suggested that blisters were to be used for the thighs, legs and arms, whilst raw beef was to be placed on the soles of the feet.[62] Presumably, treatment aimed to draw the fever out from the head, via the extremities. Mrs Meade suggested mixing various herbs, such as poppies, marigold flowers and wormwood, and infusing them in wine.[63] The wine was then to be strained and left for nine days. This remedy suggests that not every medicine that featured in domestic receipt books was made upon request. This medicine took over a week to prepare, so as a fever could last less than nine days the likelihood is that such medicines were made and stored within the home. A number of remedies included poppy seeds and lemons as ingredients, including a receipt by Mary Kettilby which recommended this mixture as a drink to cure the fever.[64] A second remedy for fever within the same text suggested lemons mixed with water and boiled.[65] Both remedies recommended the boiling and straining of ingredients, suggesting that a warm drink was considered to be a good remedy for a fever. In the third edition of her text, printed in 1724, Kettilby produced a different remedy for the fever. The new version suggested that a drink consisting of a mixture of preserved barberries and milk should be boiled and consumed when thirsty, acknowledging the thirst of some fever patients, without explicitly identifying thirst as a symptom.

Fever treatments utilised a wide range of ingredients, both within the home and in institutions. Writers incorporated New World ingredients into domestic remedies in the eighteenth century. However, many domestic receipt books relied upon ingredients that

[61] Wellcome Library, MS.3009, Jacob, p. 36.
[62] Wellcome Library, MS.1320, Book of Phisick, p. 47.
[63] Wellcome Library, MS.3500, Meade, p. 133.
[64] Kettilby, *Collection of Above Three Hundred Receipts*, p. 164.
[65] Ibid.

were easily accessible.[66] In his *Complete Herbal*, Culpeper made use of many household plants in his compound medicines, and listed them in the index. As Culpeper was writing in the seventeenth century, his text did not include many New World ingredients, such as Sal Prunella or Peruvian Bark. Therefore, the inclusion of Peruvian Bark in eighteenth-century remedies was a notable addition to the treatment of children with fevers.

3.4: Institutional care

This section will examine the different types of care that was provided for children with fevers outside of the home, in institutions such as the Foundling Hospital, workhouses, dispensaries and infirmaries. During the eighteenth century, institutions that provided medical care developed to complement – but not replace – the care given in the home. The Foundling Hospital mixed domestic and professional medical care for its foundling children. Children under the age of five were placed out to nurse, and therefore were treated with domestic medicine. Those over the age of five were treated in the Foundling Hospital Infirmary, and some patients were subject to medical experiments. For those who could not be cared for within the home, there were various options that allowed them to be cared for in institutions. The workhouses were a location of last resort, and provided medical care for those who could not afford it in the domestic sphere. Dispensaries allowed children, especially infectious patients, to be treated within the home, but with care informed by professional expertise. The development of voluntary infirmaries further medicalised the care of the sick, but children and those who suffered from infectious diseases were often excluded.

Foundling children under the age of five were usually cared for by country nurses rather than in the Foundling Hospital. As a result, they were treated with domestic

[66] Elaine Leong and Sara Pennell, 'Recipe Collections and the Currency of Medical Knowledge in the Early Modern "Medical Marketplace"', in *Medicine and the Market in England and Its Colonies, c.1450-c.1850*, ed. by Mark S.R. Jenner and Patrick Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 133–52, (p. 136).

medicine when sick. Although more cases of fever were to be found in the Foundling Hospital infirmaries than among the children out at nurse, several cases of fever were reported in the Berkshire correspondence.[67] Several letters written to the Foundling Hospital administration mention the same child, Catherine Towes. No age was given for her, but as she was out to nurse, it is likely that she was under the age of five. Mrs Birch, an inspector for the Foundling Hospital, noted that Catherine was sick with a fever and had been given magnesia and musk in order to prevent convulsions.[68] Neither magnesia nor musk were in Culpeper's *Complete Herbal*, and *A Dictionary of Medicine* by Alexander Macaulay suggested that musk, at least, was a very expensive product found and imported from Asia. Macaulay suggested that physicians had cheaper and more reliable options than musk to treat various diseases, including typhus fever.[69] However, there is no evidence suggesting that Catherine Towes suffered from typhus fever. Nor was there anything to suggest she had an intermitting fever, but the letters indicate that she had several bouts of the fever over a period of one year (which included improvement in her condition). Therefore, it appears that Towes suffered from the fever intermittently, rather than constantly, throughout her short life. By 14 April 1760, she had been 'in great danger' with a violent fever, but had recovered after being attended to with James' Fever Powder every six hours.[70] This remedy may have alleviated the fever or its symptoms.

No explanation was provided as to why the treatment given to Towes changed, and why she was given James' Fever Powder for her second bout of fever rather than a further dose of magnesium and musk. Giving the child James' Fever Powder would not have been as simple as just giving her some powder as medicine. She would have been

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[67] Clark, *Correspondence of the Foundling Hospital Inspectors*.
[68] Clark, *Correspondence of the Foundling Hospital Inspectors*, p. xix; LMA A/FH/A/6/1/13/2/36. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 83.
[69] Alexander Macaulay, *A Dictionary of Medicine: Designed for Popular Use. Containing an Account of Diseases and Their Treatment, Including Those Most Frequent in Warm Climates* (Edinburgh: A. Black, 1831), pp. 404–5.
[70] LMA A/FH/A/6/1/13/2/37. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 84.

prepared for the Fever Powder, with bleeding only being undertaken if her carer or physician felt that she was strong enough. Had Towes been constipated, she would have been given a clyster, either of milk and brown sugar or of warm water, with a spoonful of salt. However, the notice given by James was that there was not too much purging required, 'only that costiveness should be prevented'.[71] Once prepared, Towes would have been 'laid in bed, and taken half, or a third, of a packet of Fever Powder, mixed with a spoonful of Pandana, syrup, jelly of currants, Barley Water, Gruel or any kind of tea, ensuring that the patient consumed all of the Powder allotted to them'. She would then have been kept warm, and made to drink any 'thin diluting liquor warm'. If any sickness, purging or sweating occurred, it was not necessary to repeat this process, but the other half of the packet was 'to be given in the same manner as the first'. By the time that both halves of the packet of Powder had been given to the patient, the 'feverish heat, head-ache, thirst, dryness of the tongue, and anxiety generally disappear, and the patient sleeps easily'.

As the letter suggested, the James' Fever Powder eased Towes' fever and improved her condition, but by the letter dated 29 June 1761, she was once again dangerously ill with a fever, which this time was 'occasioned by cutting teeth'.[72] Although an apothecary was attending Towes she died on 5 July of the fevers.[73] The intervention of the apothecary was simply noted, with no further information regarding any medication or cure that was attempted with the child. James' Fever Powder had worked in April 1760, but it was not used again before her death because Mrs Birch was not with Catherine Towes when she died. She was in Essex, visiting relatives after a family death. Mrs Birch

[71] Robert James, *Dr. Robert James's Powder for Fevers, And All Inflammatory Disorders* (London: 1780), p. 1. Unless otherwise stated, all quotations in this passage are taken from this source.
[72] LMA A/FH/A/6/1/14/2/12. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 116
[73] LMA A/FH/A/6/1/14/2/10. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 117.

wrote: 'I wish with all my heart I had been on the spot to have given James powder, having with all the children so often experienced its efficiency. She dyed of a fever, of which she was taken ill soon after I left the country'.[74] Thereafter, Mrs Birch claimed the efficacy of James' Fever Powder for treating her Foundling children for fevers. However, in a letter dated 1 April 1760, just two weeks before she wrote of having treated Catherine Towes with James' Fever Powder, Mrs Birch reported the death of John Penrose, a child she refused to treat with the powder. Birch stated that:

> had he been my own I should have administered James Powder, but lest your govs should imagine I had quacked their children to death, I am fearfull of using it, tho' in the case of Mary Fletcher, who I wrote you was dangerously ill, it proved most sirprizingly efficacious. I gave the powders when the child was said to be adying. She is now better than when first brought to me.[75]

Why Mrs Birch refused to give John Penrose James' Fever Powder when it had worked well for Mary Fletcher, and then gave it to Catherine Towes fourteen days later, was not explained, despite Penrose's death. Perhaps the fact that he died of the fever, when he could potentially have been saved by the Fever Powder, encouraged Mrs Birch to give the Powder to Catherine Towes after magnesia and musk failed to cure her. Towes was not the only child in the Berkshire records to suffer and die from the fevers, but she was the only child to be the subject of more than one letter. The number of letters written about her gives an indication of the ways in which the governors, nurses and inspectors treated the children under their care. Mrs Birch tried several remedies to save Towes, and was ultimately unsuccessful. That Mrs Birch wished she had been present to provide Towes with the Fever Powder also suggests that she perhaps did not trust the apothecary with her charge, although what the apothecary tried was not noted in any of the surviving records. The deaths of Catherine Towes and John Penrose indicate how dangerous fevers

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[74] LMA A/FH/A/6/1/14/2/10. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 117.
[75] LMA A/FH/A/6/1/13/2/34. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 82.

could be during the eighteenth century. The recurrence of Towes' fevers reminds us of the risk of relapse and of how many patients experienced multiple periods of illness. Therefore, finding an appropriate and successful treatment was important to the physicians of the Foundling Hospital, apothecaries, infirmaries and dispensaries, as well as to family members. Due to the lack of standardisation in the treatment of children with fevers, there was an element of experimentation with regards to the treatment of foundling children at nurse, as shown by the cases of Towes and Penrose. Although her approach was not as systematic as during the experiments undertaken at the Foundling Hospital on patients with smallpox and skin conditions, Mrs Birch used different methods at different times. Mrs Birch did not explain why she used the different remedies, or why she refused to give one child the Fever Powder, but gave it to another, so she may have been taking into account the child's constitution.

Not everybody was as effusive as Mrs Birch as to the 'surprising efficacy' of the Fever Powder.[76] Some writers argued that the Fever Powder was not effective in treating fevers. Robert James himself had to write a defence of his Fever Powder, which was published posthumously in the eighth edition of his text. James asserted that the main cause of concern regarding his Fever Powder was that '[physicians and apothecaries] will not prescribe or employ Dr James's Powder, because they cannot use a medicine they do not know. I wish they would abide by their own rule; for then, as they know nothing, they would do nothing'.[77] James asserted that his Powders cured fevers, and that they were effective in curing fevers:

> That many people have recovered upon taking my powders, cannot be controverted; yet, according to them, my Powders have no virtues; therefore these Powders could not cure them. How did they recover? Was it because, when they took this remedy, other medicines, which prevented their recovery, were left off?[78]

[76] LMA A/FH/A/6/1/13/2/34. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 82.
[77] James, *Dissertation on Fevers*, p. 87.
[78] Ibid., p. 89.

Month	Type of fever	Number of children	Percentage of children with fever
December 1764	General fever	10/127	8
January 1765	General fever	16/86	19
February 1765	General fever	21/90	23
March 1765	General fever	16/57	28

Table 3.2 General fever outbreaks in the Ackworth Infirmary, December 1764-March 1765[80]

According to James, the reasons many believed that his Powder did not work, or even that they were in fact harmful to those who suffered from a fever, were that physicians were either falsifying results or so incompetent that they could not administer the Powder correctly: how else to explain how 'a lady, a clergyman, or a common overseer of a plantation, besides a thousand others, without the least pretence to medicinal knowledge, should administer my Powder to many hundreds with such amazing success; and yet, under the management of those who have made the study and practice of physic the business of their lives, it should have so contrary an effect?'[79]

Fevers were common complaints in the infirmaries of the Foundling Hospital. The monthly records documented large numbers of fever sufferers on several occasions, and although there were cases of specific fevers, the majority of the individuals were listed under a heading of a general fever. Table 3.2 outlines the dates of general fever outbreaks in the Ackworth branch of the Foundling Hospital, the type of fever, how many children suffered from the fever, how many children were in the Infirmary at the time, and the proportion of children in the infirmary who suffered from fevers. In the Ackworth branch of the Foundling Hospital, the infirmary records were divided into lists of the sick children in the Hospital Infirmary at Ackworth itself, and those who were sick out in the country

[79] Ibid., p. 93.
[80] LMA, A/FH/Q/70, Monthly sickness, September 1759 to May 1770.

at nurse. In the Infirmary, during the period between December 1764 and March 1765, numerous children suffered from the general fever. Other children were listed with intermittent fevers and the ague at the same time, indicating that these two fevers could be identified and distinguished from a generalised fever. The only other conditions that were more prevalent than the general fever in the Ackworth Infirmary during these months were smallpox and dysentery.

Fever outbreaks were common in the London Infirmary as well. In March 1762, out of a total of 37 children in the London infirmary, 16 suffered from general fevers. Ague was also present in the London Infirmary, along with the general fevers, suggesting that, as at Ackworth, the two conditions *were* distinguished. When compiling a chart of morbidity in the Foundling Hospital infirmary between 1761 and 1766, Levene appears to have grouped all fevers together, as there is no mention of intermitting fever or the ague. Instead, the fever, presumably in its most general sense, accounted for 16 per cent of morbidity in the Foundling Hospital. Although this proportion was not the highest for diseases recorded, fever was the fourth largest only being overtaken by chilblains at 18 per cent; 'other' at 20 per cent and the most common illness at the Foundling Hospital, the itch, at 26 per cent.[81]

The exact treatment for fevers in the Foundling Hospital was not recorded in any of the surviving records, but it is known that children were withdrawn from the Powis Wells Water trial for skin, head and eye conditions if fever was diagnosed.[82] Fever was a cause of death in the Foundling Hospital in London, with 14 per cent of deaths of children between the ages of one and five years during the period 1741-99 being attributed to this condition in London.[83] Fever was a cause of death in the country branches as well, with

[81] Levene, *Childcare, Health and Mortality*, p. 160.
[82] LMA A/FH/A/18/009/001, Apothecary notes (in English).
[83] Levene, *Childcare, Health and Mortality*, p. 156.

Ackworth losing 13 per cent of its children to fever between 1757 and 1773.[84] The London infirmaries linked with the Foundling Hospital, at Battle Bridge and the Brill, St Pancras, were built some distance away from the main Foundling Hospital. Isolation hospitals were built far away from the main Foundling Hospital site so that children with infectious diseases, such as fever, smallpox or measles could be kept away from the children who were not infected, in order to limit the spread of the disease.

Due to the fact that fevers were generally thought to be infectious, those who suffered from fevers and other infectious conditions were commonly banned from entering infirmaries and hospitals. Thus, the majority of care for fevers was undertaken in the home with the assistance of physicians or dispensaries, or in institutions such as the workhouse and Foundling Hospital where fevers had to be treated. However, there were exceptions to this rule. The Edinburgh Royal Infirmary and the Bristol Royal Infirmary took in patients who suffered from fever or who had fever as a symptom of another condition.[85] The Northampton Infirmary also took a number of patients displaying the symptoms of fever, despite stating in their rules that those with infections or those under the age of seven would not be admitted to the hospital. At Bristol Infirmary, fever patients accounted for 16.6 per cent of all patients admitted.[86] In Manchester, rather than admitting fever patients to the Infirmary, emphasis was placed on treating the infectious patient within the confines of their own home to guard against the spread of what was recognised to be a contagious condition.[87]

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[84] Ibid., p. 162.
[85] Risse, *Hospital Life*, p. 131; Mary E. Fissell, *Patients, Power, and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University Press, 1991), p. 107; Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 23.
[86] Fissell, *Patients, Power, and the Poor*, p. 107.
[87] J.V. Pickstone and S.V.F. Butler, 'The Politics of Medicine in Manchester, 1788-1792: Hospital Reform and Public Health Services in the Early Industrial City', *Medical History*, 28 (1984), 227–49, (p. 231).

The first major epidemic of fevers in Manchester came at the Radcliffe Mill in 1784 amongst textile workers.[88] Those affected believed that the conditions of the mill, especially its large, hot environment, generated fever. However, the attending physician, Dr Ferriar, felt that the fever had been caused by excessive working and insanitary living conditions, exacerbated by the working conditions in the mills.[89] The fever was used as an excuse to attack the mill's owner, Robert Peel.[90] The recommended course of action included the following: 'the children in the factory should be bathed occasionally, while the clothes of infected persons should be disinfected before being used again'.[91] According to an anonymous article published in 1958, the mill was not the only place which produced fevers during this epidemic. Lodging houses were also seen as likely origins for the outbreak, due to their 'want of cleanliness and air [and also for] receiving the most offensive objects into their beds'.[92] The cramped, overcrowded conditions and the proximity to infected people in this type of environment led to the spread of fevers. In lodging houses, individuals shared beds, and the linen may not have been cleaned regularly, thus helping fevers to spread.

Fevers were also treated at dispensaries, such as the Newcastle Dispensary, and the Bamburgh Castle Dispensary. Although no age ranges were provided in the Newcastle Dispensary Records, Butler found records for a family with three children, all of whom suffered from fever and were treated in the Newcastle Dispensary after being refused medical care in the Infirmary.[93] This example demonstrates how fevers were actually treated at the Newcastle Dispensary. The first two children were prescribed 'the bark very liberally from the beginning'. Whilst the third child was also prescribed Peruvian Bark,

[88] Ibid., p. 232.
[89] Pickstone and Butler, 'Politics of Medicine in Manchester', p. 232; Anonymous, 'The Putrid Fever at Robert Peel's Radcliffe Mill', *Notes and Queries*, 1958, 26–35, (p. 31).
[90] 'Putrid Fever', p. 27.
[91] Ibid., p. 31.
[92] Quoted in ibid., p. 31.
[93] Butler, 'Disease, Medicine and the Urban Poor', p. 160.

when his condition deteriorated he was prescribed '12 grains of mercury' along with the bark at bedtime.[94] All three of these children survived the fever, but the records provide no indication as to whether these doses were the same as those given to adults with fevers. In the Newcastle Dispensary, bleedings and purgings were not recorded as treatments for fever, although this may have been due to the fact that these three patients were children. No amount of bark was mentioned other than that it should be given 'liberally'. The parents may also have been in control of the amount of bark given to their children. Little is known about the exact ways in which dispensaries provided their care. We do not know whether parents were handed a remedy and expected to administer each dose at home, or whether children were taken to the dispensary each time they needed a dose of medicine. Therefore, whilst the dispensary movement offers an insight into the treatment and care provided for sick children, the exact ways in which medicine was dispensed remain unclear.

Children were treated within the Bamburgh Castle Dispensary, but the records for this institution only record the ages of the children, not the treatment they received.[95] The fever patients that were treated at the Bamburgh Castle Dispensary included siblings William and Sarah Hunter. Like the other dispensaries around the country, the Bamburgh Castle Dispensary was not residential, although admission and discharge registers were completed to record of all the patients being treated by the dispensary. William was aged 18, whilst Sarah was 11. They had both had the fever for 20 days before admission to the Dispensary on 4 April 1778. They were both discharged cured on 2 May of the same year.[96] Siblings David and John Henderson, aged 4 and 2 respectively were admitted into the care of the Dispensary on 16 May 1778. They had both had the fever for one week

[94] Ibid.
[95] Woodhorn, Northumberland Record Office (NRO), 00452/D/8/2/3 Dispensary Register of Patients, October 1777-January 1784.
[96] Ibid.

and were discharged cured on 23 May. The Henderson brothers recovered relatively quickly when compared to time it took for the Hunter siblings to recover, especially as the Hunters had been ill for a considerable amount of time prior to their admittance. Mary Taylor, aged 12, suffered from the fever for one week before being admitted into the Bamburgh Castle Dispensary, and was under the Dispensary care for almost a month. She was admitted on 15 November 1778 and discharged on 12 December of the same year.[97] The amount of time the children were under the care of the Dispensary for the treatment of fevers indicates that fever was not always a condition that could be treated within the seven to nine days suggested by physicians and domestic receipt books.[98] Whilst a quick cure was provided for the Henderson siblings, other children, such as the Hunters and Mary Taylor, were not cured so quickly. That children were treated for their fevers at the Dispensary rather than the Infirmary shows that children, as well as those who suffered from infectious conditions such as fever, who were barred from entering the infirmary, could and did receive treatment at institutions such as dispensaries.

Many admissions to workhouses were due to ill health and the need for medical care, and workhouses had to respond by providing this medical care and by developing their provision. In addition, as Mary Fissell pointed out: 'fever … required the sort of bed rest and domiciliary care that many of the [Bristol] Infirmary's patients could not rely upon family or friends to provide'.[99] Therefore, the workhouses provided an important element of care for fevers in the eighteenth century, care that often could not be provided within the home. By the end of the eighteenth century and the turn of the nineteenth century, hospitals that specialised in the treatment of specific conditions had been opened and these hospitals accepted both adults and children. John Haygarth (1740-1827) opened the first fever hospital in Chester in 1780 and the opening in 1801 of the London Fever

[97] Ibid.
[98] Ibid.
[99] Fissell, *Patients, Power, and the Poor*, p. 107.

Hospital allowed for the isolation and containment of fevers as well as the specialised medical care for those who suffered from fevers in London.

During a fever epidemic in Chester in the 1770s, Haygarth completed a survey of the whole town which led him to believe that the fever was contagious.[100] In addition Haygarth identified that the areas of Chester in which the poor lived (chiefly suburban locations) were more affected by the infectious fevers than the areas in which the rich lived, the more spacious areas at the very centre of the town.[101] Haygarth had identified overcrowding and lack of sanitation as being major factors behind the cause and spread of this particular fever, along with no clean clothing, bad air and a bad diet that was afforded to the poor people of Chester during the 1770s.[102] He also identified stagnant water as being abundant in the suburbs of Chester and water in general almost non-existent in the centre.[103] He argued that the spread of infection could be limited by creating fever hospitals, or wards within hospitals for fever patients to be isolated and treated.[104] Acknowledging that general infirmaries should not accept patients with infectious conditions, Haygarth suggested that a separate ward or building that would distance infection from the general infirmary population. His suggestion for a separate fever hospital concluded:

> The chief aim of our regulations is not merely to preserve the lives of infected persons. The principal purpose and benefit of the establishment is to prevent any infectious fever from spreading through poor families, and through the town.[105]

[100] W.F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 1994), pp. 66–7.
[101] Ibid., p. 67.
[102] Haygarth, 'Observations on the Population', pp. 137, 139; Bynum, *Science and the Practice of Medicine*, p. 67.
[103] Haygarth, 'Observations on the Population', p. 138.
[104] Christopher Charles Booth, *John Haygarth, FRS (1740-1827): A Physician of the Enlightenment* (Philadelphia, PA: American Philosophical Society, 2005), p. 63.
[105] Quoted in Sir Arthur Newsholme, *Evolution of Preventive Medicine (Routledge Revivals)* (Routledge, 2015), unpaginated.

Haygarth was not alone in advocating isolation for infected patients. The rules laid out by James Lind for the isolation and care of patients with infectious fevers appeared in John Howard's text *An Account of the Principal Lazarettos in Europe*. This text included rules such as no interaction with other patients, cleanliness, a good diet and fresh air, all of which aligned with Haygarth's suggestion for the Chester fever hospital.[106] Thus, the knowledge that fevers were infectious was well known by the time Haygarth was isolating patients. The cool method of treatment, along with cleanliness and diet were again important aspects of treatment for fever, in the same way that they were for other diseases during the eighteenth century.

The fever epidemic of 1783 allowed for a trial run of fever wards within the Chester Infirmary, which was such a success that a permanent fever ward was created.[107] Bynum argues that, because of the insights of Haygarth, cities such as Newcastle, Leeds, London and Manchester developed a string of fever hospitals or 'houses of recovery'.[108] These fever hospitals had set routines and medical practices for the treatment of their patients, and they included fresh air, clean bedclothes, special diets and purgatives. They also provided assistance to the family of the fever patient by removing the infection from the home, and by issuing clothes, soap and whitewash so the home could be sanitised, to try to prevent the spread of the fever within the home.[109]

In Chester, Haygarth noted the age ranges of those who suffered from fevers, and suggested that children were more susceptible than adults. [110] At the end of his text *Observations on the Population and Diseases of Chester, in the year 1774*, Haygarth included tables regarding the diseases suffered by those living in Chester in 1774. In these

[106] John Howard, *An Account of the Principal Lazarettos in Europe*, 2nd edn (London: Printed for J. Johnson, D. Dilly, and T. Cadell, 1791), p. 209.
[107] Booth, *John Haygarth, FRS*, pp. 64–5.
[108] Bynum, *Science and the Practice of Medicine*, p. 67.
[109] Ibid.
[110] Haygarth, 'Observations on the Population', p. 148.

tables, Haygarth gave a list of the diseases, the ages of those who suffered from the diseases, and the total number of diseases overall. Fever affected a total of 35 individuals, although it is unclear how many of them died.[111] Of these 35 patients, two were under the age of two, whilst the largest number, 11, were aged between 20 and 30 years. A total of ten individuals under the age of 20 years suffered from general fevers. The age group 5-10 years was the second most susceptible, comprising five children with general fever. The only other conditions in Chester in 1774 that affected more people than fever were smallpox, consumption, convulsions, and decay of age.

Around the same time as developments in Chester, in Edinburgh fever cases were being admitted to the teaching ward of the Edinburgh Infirmary. The case of Janet Williamson shows how teaching and experimentation shaped medical care during this period, although Janet was aged 19 at the time of treatment and so was not strictly a child. The Scottish physician William Cullen admitted Williamson to the teaching ward due to a recent outbreak of fever in Edinburgh.[112] Cullen's treatment regimen was to 'starve a fever', and he prescribed a regimen of a limited diet, emetics, purgatives and bloodletting. As with other physicians treating patients at home, 'dietary prescriptions constituted the first line of therapy'.[113] The teaching of physicians in infirmaries such as the one at Edinburgh was an important aspect of medical training, and helped treatment to become more standardised in the following century. Whether any of the teaching cases at Edinburgh Infirmary focused on children was not noted, but the regimen and treatment put into place for Janet allowed Cullen and his trainee physicians may have been adopted or adopted for children.

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[111] Ibid.
[112] *Health, Disease and Society in Europe, 1500-1800*, ed. by Peter Elmer and Ole Peter Grell (Manchester: Manchester University Press, 2004), pp. 166–70.
[113] Ibid., p. 170.

3.5: Scarlet fever

Scarlet fever was recognised in the eighteenth century as being an infectious disease.[114] It was easily identifiable due to the redness on the skin after which it was named. Scarlet fever was a disease in and of itself, rather than a symptom of another disease. However, scarlet fever was not often discussed in medical treatises. It featured in Buchan's *Domestic Medicine*, but it was not included in Armstrong's *An Account of the Diseases Most Incident to Children*. Indeed, the disease was not mentioned at all in some tracts on fevers, suggesting that specific treatments for different types of fevers may not have been seen as necessary in the eighteenth century. Epidemics of scarlet fever were recorded in Yorkshire in 1759-1760, 1773 and 1777.[115] Outbreaks of scarlet fever occurred throughout England in the 1770s, including in Birmingham in 1778 and in Newcastle in 1778-9. Prior to these outbreaks very little was written about scarlet fever. John Clark, first writing in 1780, stated that 'at the time this disease appeared, I had perused no English Author, who had written expressly on the subject, except Dr Morton; and indeed the epidemic differed very much from his description'.[116] Scarlet fever was treated both in the domestic setting and in institutions. This section will examine the diagnosis and treatment of scarlet fever in the eighteenth century, and will evaluate the impact of and response to epidemics.

In an outbreak of scarlet fever in St Albans in September 1748, Nathaniel Cotton was confused by the differing symptoms of the disease, suggesting that there was some

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[114] William Withering, *An Account of the Scarlet Fever and Sore Throat, or Scarlatina Anginosa* (London: G.G. & J. Robinson, 1793), p. 5; Calvin Jones, *A Treatise on the Scarlatina Anginosa; or What Is Vulgarly Called the Scarlet Fever; or Canker-Rash. Replete with Every Thing Necessary to the Pathology and Practice, Deduced from Actual Experience and Observation* (Catskill, NY: M. Croswell & Co., 1794), p. 10.

[115] Creighton. Quoted in Christine Alvin, 'Medical Treatment and Care in Nineteenth-Century Bradford: An Examination of Voluntary, Statutory, and Private Medical Provision in a Nineteenth-Century Urban Industrial Community' (unpublished doctoral thesis, University of Bradford, 1999), p. 302.

[116] John Clark, *Observations on Fevers, Especially Those of the Continued Type; and on the Scarlet Fever Attended with Ulcerated Sore-Throat* (London: T. Cadell, 1792), p. xii.

uncertainty surrounding a diagnosis.[117] This disease, which Cotton was adamant was scarlet fever, at first only affected children, but later moved to infecting adults. Cotton noted a range of symptoms, and observed variation in the order and duration of the different stages of the disease.[118] Cotton pointed out a similarity between measles and this outbreak of scarlet fever, but did not take the comparison any further. He claimed that the diversity of symptoms led some, but not himself, to think that this was not scarlet fever. He responded by stating that:

> I imagine that such disputes are about words only. For although there is a considerable difference between the present scarlet fever, and the milder one, which Sydenham describes, yet an increased number of symptoms, and a more exasperated degree thereof, would authorise a physician to alter the name of the disease, I fear, that confusion would be the consequence of such a liberty.[119]

Despite an outbreak in St Albans and the surrounding areas in 1748, it was not until the 1770s that scarlet fever was treated as a serious disease by physicians of the time. The reasons for the limited interest in scarlet fever as a specific disease is not known, but perhaps the difficulties in identification and differing symptoms mentioned by Cotton above complicated diagnosis.

Following the 1778 outbreak in Birmingham, the physician William Withering published an account which detailed his ideas that scarlet fever, although often paired with an ulcerated sore throat, was in fact a different disease, albeit one of two diseases which 'owed their existence to the same specific contagion, that the varieties in their appearance depend upon contingent circumstances, and that the greatest differences are not greater than those of the distinct and confluent smallpox'.[120] He was, nevertheless, convinced that the two diseases were 'the offspring of the same specific contagion'.[121]

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[117] Nathanael Cotton, *Observations on a Particular Kind of Scarlet Fever, That Lately Prevailed in and about St. Alban's. In a Letter to Dr. Mead. By Nathanael Cotton, M.D.* (London: Printed for R. Manby and H.S. Cox, 1749), p. 3.
[118] Ibid., p. 4.
[119] Ibid., p. 6.
[120] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 5.
[121] Ibid., p. 11.

Writing around the same time in Newcastle, John Clark observed that the disease was different in each individual, although he did not suggest that there was more than one disease present.[122] The confusion about the origin of scarlet fever was further complicated by William Lee Perkins who linked the two diseases of putrid sore throat and scarlet fever, when writing in 1787.[123] In addition to Perkins' link between the putrid sore throat and scarlet fever, James Sims' text, entitled *Observations on the Scarlatina Anginosa, or Sore Throat*, suggested that scarlet fever and the putrid or ulcerated sore throat were not just part of the same disease, but were the same disease.[124] Indeed, throughout his treatise, Sims referred only to the sore throat, rather than any kind of fever, suggesting that his idea of scarlet fever was a sore throat. Sims felt that the fever associated with scarlet fever was a by-product of a sore throat, rather than the scarlet fever and sore throat being different strands of the same disease. In addition, writers debated about whether scarlet fever affected some people more than others, as an explanation for this disease.

William Withering, in his analysis of scarlet fever and its effects on the city of Birmingham in 1778, indicated that scarlet fever affected children more than adults, that boys and girls suffered about the same, and that females suffered more than males in adulthood.[125] Physician Calvin Jones asserted that 'not one tenth [of children were] escaping it in the boundaries over which the contagion has spread, in warm weather'.[126] Women were more likely to catch the disease because Withering claimed that 'they were more employed in attendance upon the sick, and consequently more exposed to the infection'.[127] In turn, women would then bring the infection back into their homes,

[122] Clark, *Observations on Fevers*, p. 204.
[123] William Lee Perkins, *An Essay for a Nosological and Comparative View of the Cynanche Maligna, or Putrid Sore Throat; and the Scarlatina Anginosa, or Scarlet Fever with Angina* (London: Printed for J. Walter; and J. Johnson, 1787).
[124] James Sims, *Observations on the Scarlatina Anginosa, Commonly Called the Ulcerated Sore Throat* (Boston, MA: Samuel Hall, 1796).
[125] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 14.
[126] Jones, *Treatise on the Scarlatina Anginosa*, p. 11.
[127] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 14.

spreading it to children. In terms of ages, Withering suggested that, although children were more susceptible to the disease than adults, children under the age of two years old were unlikely to contract the disease. Adults over the age of 50 years were also unlikely to suffer from scarlet fever.[128] Clark argued that 'the disease was peculiar to children and young persons; several adults, however, exposed to the contagion did not escape'.[129] In contrast, Calvin Jones identified children who suffered from the disease under the age of 12 months, albeit from a milder case of the disease. Jones also asserted that children over the age of twelve months up to the age of puberty were 'more liable to a violent disease'.[130] Those above the age of puberty were likely to suffer a less violent form of the disease, and no upper age limit was provided, although Jones did claim that 'this affection in those past the vigour and in the decline of life has never occurred to my observation', suggesting that, although there was no set upper age limit for the contraction of scarlet fever, older individuals were not often struck by the disease.[131] In addition to age, Clark suggested that the disease was prevalent only amongst the lower classes, and 'the distemper was not prevalent in genteel families'.[132] Newcastle was, at this time, labouring under a smallpox epidemic, and cases of inflammatory sore throat and erysipelas were also present.[133] Newcastle also experienced a measles outbreak in January 1779.[134]

Children were, according to Jones, more likely to suffer from scarlet fever during the warm weather, suggesting seasonal patterns in the incidence of the disease.[135] Withering's notes correlate with this view, as he recorded that May and June were the months at which scarlet fever was at its height during the 1778 outbreak.[136] The coolness

[128] Ibid.
[129] Clark, *Observations on Fevers*, p. 203.
[130] Jones, *Treatise on the Scarlatina Anginosa*, p. 11.
[131] Ibid., p. 12.
[132] Clark, *Observations on Fevers*, p. 203.
[133] Ibid.
[134] Ibid., p. 204.
[135] Jones, *Treatise on the Scarlatina Anginosa*, p. 12.
[136] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 13.

of autumn helped to dispel the disease, but it recurred in November in Birmingham during a period of warm weather.[137] In Newcastle, the disease spread during the months of August, September and October, and began to decline in December 1777, although continued to be reported in the early months of 1779.[138] Children, argued Jones, were susceptible to too much heat which, 'will have a disagreeable affect (sic) on the senses, and thereby induce debility, as well as by exceeding the bounds of the sthenic diathesis, in the part to which its intensity is immediately applied, which is the skin and lungs, as being external surfaces (without much impairing the functions of the whole) and by which we suppose contagion to be introduced'.[139] Jones believed that the heat of the air, along with the heat within the child, and the child's excitability, allowed scarlet fever to develop.[140] Children were thought to be more likely than adults to contract scarlet fever in the summer as they were 'more liable to be affected by contagion in warm weather than adults'.[141] When the disease spread through families, all of the children were struck, and 'even old persons did not always escape'.[142] Thus the close quarters of the family home played a larger role than age in determining the chances of an individual contracting the disease.

Scarlet fever was a common enough condition to be found in the Newcastle Dispensary records, and more often than not patients were diagnosed with a sore throat, putrid sore throat, or ulcerated sore throat, as well as with scarlet fever.[143] The treatment offered by Buchan for scarlet fever noted that it should be 'similar to that of the malignant ulcerous sore throat', reflecting the perceived correlation between the two conditions, and perhaps how they shared some similar symptoms.[144] Although a relatively small number

[137] Ibid.
[138] Clark, *Observations on Fevers*, p. 203.
[139] Jones, *Treatise on the Scarlatina Anginosa*, p. 13.
[140] Ibid.
[141] Ibid.
[142] Clark, *Observations on Fevers*, p. 215.
[143] TWA, HO.ND, Dispensary Annual Reports.
[144] Buchan, *Domestic Medicine*, 7th edn, p. 195.

of scarlet fever cases were recorded each year, when added together, the number of individuals who suffered from scarlet fever and a sore throat accumulates significantly. Between 1777 and 1784, a total of 173 cases of scarlet fever and some type of sore throat were recorded. Of this number, 147 were listed as being cured, which represents a success rate of 85 per cent. Eleven cases were deemed 'too advanced' with no further information provided, whilst fourteen individuals died of this disease, and one was considered to be 'irregular'.[145] Between October 1777 and September 1790 (and including cases above), 203 individuals were treated at the Dispensary for scarlet fever and some form of sore throat. Of these, 176 were cured, giving a success rate of 87 per cent. 26 of the 203 died of scarlet fever, whilst one was considered to be 'irregular'.[146] By 1791, scarlet fever was no longer listed alongside any kind of sore or putrid throat in the Newcastle Dispensary records, but the records contain no explanation for why this change occurred. Relatively small numbers of individuals were still suffering from scarlet fever, with the 12 months from August 1794 witnessing the treatment of 17 patients, 16 of whom survived. 1797-8 also saw the treatment of a relatively large number of scarlet fever patients. 15 patients were admitted, of whom 11 were cured, three died, and one remained on the books.[147] It is unclear what caused the move from diagnosing and listing scarlet fever along with a sore throat and the shift may simply have been due to a different administrator compiling the records. However, the shift in diagnosis may also be a case of a different disease. The term 'diphtheria' was not coined until the nineteenth century, but outbreaks of the disease were identified in Colonial North America and England during the eighteenth century.[148] Perhaps patients in Newcastle in the period 1777-89 were afflicted by diphtheria rather than with scarlet fever with a sore throat. Differential and retrospective diagnosis prevents

[145] TWA, HO.ND, Dispensary Annual Reports.
[146] Ibid.
[147] Ibid.
[148] Jukka Lumio, 'Studies on the Epidemiology and Clinical Characteristics of Diphtheria during the Russian Epidemic of the 1990s' (unpublished doctoral thesis, University of Tampere, 2003), p. 12.

this hypothesis from being anything more than speculation. That relatively few patients suffered from scarlet fever in the Newcastle Dispensary, and that the majority of individuals survived this condition, shows that most patients likely had a mild case of the disease in contrast to severe cases witnessed by Rosenstein in Sweden.

Contemporary physicians were in broad agreement about the symptoms of scarlet fever. Withering laid out the symptoms in his text, which included weariness 'defection of spirits', stiffness in the throat, tightness of the neck and shoulders, along with chills and hot flushes, with the heat eventually prevailing. Headaches, sickness and restless sleep were also included in his list of symptoms, along with a sore throat, vomiting and hot and dry skin. The red rash which was clearly indicative of scarlet fever, occurred on the third day of illness.[149] Likewise, Clark identified sickness, 'chilness or shivering', headache, and a 'pain and soreness of the throat'.[150] The skin was hot and the pulse was quick, 'often full and firm; but sometimes it was small and feeble, although generally hard'.[151] Patients at night ran high fevers and were 'often delirious'.[152] Jones also noted headache and delirium, along with a swollen throat, and dropsical swellings.[153] A similarity between the early stages of scarlet fever and measles was noted by Clark, whilst Withering mentioned measles and smallpox in conjunction with the scarlet fever.

Swelling and redness occurred in the throat, and Clark and Jones observed that the tonsils were involved in this illness.[154] Both Clark and Withering agreed that the redness of the fever developed on the third day, although both also found some variation between patients.[155] When the disease began 'violently', Clark argued that the redness

[149] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 15.
[150] Clark, *Observations on Fevers*, p. 207.
[151] Ibid.
[152] Ibid.
[153] Jones, *Treatise on the Scarlatina Anginosa*, pp. 19–20, 22.
[154] Clark, *Observations on Fevers*, p. 207; Jones, *Treatise on the Scarlatina Anginosa*, p. 7.
[155] Clark, *Observations on Fevers*, p. 208; Withering, *Account of the Scarlet Fever and Sore Throat*, p. 16.

could occur on the first day.[156] Withering agreed, and suggested that if the disease was so violent that the redness occurred on the first day, it was highly likely that death would occur by the third day.[157] Contemporary physicians recognised that some cases of scarlet fever were different from others.

Both Jones and Withering agreed, to an extent, on the treatment that was to be given to those suffering from scarlet fever. Withering advocated the use of port wine, bark acidulated gargles and antiseptic steams, for as long as they worked.[158] He felt that when the disease was mixed up with, or suffered alongside the putrid sore throat, this remedy was insufficient, as it only addressed the fever, rather than the sore throat.[159] Jones included some remedies and ingredients that were similar, but he also included much more, including purges and vomiting. Jones argued that:

> As the chief violence of the disease in most cases, and in the cases which I have seen, its danger always depended on a deficiency of tonic power. So the chief and important indication of cure is to restore the tone of the system by all the means in our power.[160]

Although not explicitly stated, Jones was discussing here the rebalancing of the body, and its humours. He went on to discuss the use of vomits and purges that he used for various patients, but did not go into detail about the age or constitution of the patients; rather, he explored the importance of needing to evacuate 'foul matter and vitiated bile', and to rebalance the system.[161] Jones was of the opinion that the fever needed to be evacuated from the body. However, not all physicians of the eighteenth century agreed with him.

Buchan argued that in the case of scarlet fever 'there is seldom any occasion for medicine'.[162] As in many of his remedies, Buchan suggested that the patient be kept

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[156] Clark, *Observations on Fevers*, p. 208
[157] Withering, *Account of the Scarlet Fever and Sore Throat*, p. 16.
[158] Ibid., p. 2.
[159] Ibid., p. 10.
[160] Jones, *Treatise on the Scarlatina Anginosa*, p. 16.
[161] Ibid.
[162] Buchan, *Domestic Medicine*, 7th edn, p. 266.

indoors, and should drink cooling liquors and not be bled. He warned against treating scarlet fever as if it were a simple inflammation, and argued that repeated bleeding, purging and overly cold medicines would prove fatal.[163]

Jones argued that wine, bark and 'the diffusible stimulus' worked well for the treatment of scarlet fever.[164] Calomel was to be used 'when there is no salivation or if it has been profuse & suddenly stopped'.[165] When headaches occurred, blisters were to be applied to sooth them, particularly when the blisters were placed under the ears. However, this remedy was recommended for adults only, as in children the headache often 'proceeds to delirium, and the irritation of the blistered places induces a desire in the patient of scratching, who being divested of judgement by the delirium always gives way to, and gratifies that propensity, and as constantly with bad effect'.[166] In America, James Sims used 'three or four drachms of nitre, powdered very fine' to treat the case of tonsillitis with which he opens his text on scarlet fever and sore throats.[167] The powder allowed a 'most copious flow of saliva', which abated the inflammation of the sore throat. Sims, upon seeing the success of this powder, continued to use it in many cases of sore throat. The patient was, in addition, ordered to 'eat moderately of any food that the stomach seemed to relish, not excepting broth or flesh, and to drink a little wine, mixed with water'.[168]

Scarlet fever was an unpleasant disease. Although perhaps milder in the eighteenth century than in the nineteenth century, it caused fatalities and epidemics. The treatment for scarlet fever was similar to that of a generalised fever, with importance placed upon the non-naturals, including diet and air in particular. Isolation practises

[163] Ibid.
[164] Jones, *Treatise on the Scarlatina Anginosa*, p. 17.
[165] Ibid., p. 19.
[166] Ibid., pp. 19–20.
[167] Sims, *Observations on the Scarlatina Anginosa*, p. 3.
[168] Ibid., p. 7.

identified and put into practice by Haygarth show that the disease was recognised as infectious and that steps were taken, where possible, to prevent the spread of the disease.

3.6: Conclusion

Children suffered from a range of different fevers during the eighteenth century, and experienced fevers as symptoms and as illnesses in their own right. Much of the care provided to children who suffered from fevers was provided in the home throughout the eighteenth century, although institutions also came to play an increasing role in caring for children with fevers. The Foundling Hospital and dispensaries allowed medical care to be undertaken within the home to an extent. For those younger foundling children who were out at nurse, domestic medicine, with the occasional input from professionals, was the norm. It was not until the children returned to the Hospital around the age of five that institutional medicine was introduced. Dispensaries supplied medicine that was manufactured by professionals but consumed within the home. For highly infectious conditions, this out-patient service provided a combination of institutional and domestic medicine. The workhouses provided medical care when medicine at home or in infirmaries was impossible. However, the extent to which medicine provided in the workhouses differed from that provided in the domestic sphere or the dispensaries is unclear from the surviving records.

Throughout the eighteenth century, the infectiousness of fevers was recognised, and Haygarth attempted respond by opening specialised fever wards in the Chester Infirmary. Isolation, along with a good diet, and clean, cool environments were believed to assist in the curing of fevers. As in the case of smallpox, and reinforcing the notion that regiment provides the only example of standardised care in the eighteenth century, a moderate regimen was recommended for the care of patients who suffered from fevers. Children with fevers at the Foundling Hospital were also placed in isolation, in purpose-

built accommodation far away from the main hospital. As patients with infectious diseases such as fevers were often excluded from the infirmaries, the use of isolation in Chester and London was a significant advance in the manner in which the location and types of treatment was changing from being primarily received within the home to specialised treatment undertaken in bespoke facilities with isolation capabilities. These developments culminated in the opening of fever hospitals in London, Manchester and other English cities during the nineteenth century.

The treatment of fevers as a symptom of other conditions, such as smallpox, measles, or cholera, shows the complexities of medical care during the eighteenth century. Children with smallpox were also treated for the accompanying fever, which gives an insight into how different diseases were treated with similar methods, and shows the importance placed on treating symptoms of disease.

The move from domestic care for children who suffered from fevers to a degree of institutionalisation of fever treatment in the late eighteenth century shows the degree to which fevers caused concern. The treatment given to children in the home was similar to that provided by dispensaries, workhouses and the Foundling Hospital, suggesting that – in the eighteenth century at least – fevers were not fully medicalised. The use of the Foundling Hospital, dispensaries and the workhouses to treat fevers was a step towards the medicalisation of fevers, with dispensary medicine, and some care given to Foundling children often being undertaken within the home. The use of workhouses began the move towards in-patient care when care within the home was not possible. Nonetheless, domestic medicine – far from being replaced – continued to complement the burgeoning providers of institutional care throughout the period.

Chapter 4: The care of children with whooping cough

This chapter aims to examine how whooping cough was diagnosed, understood, and treated in the eighteenth century. Whooping cough is an infectious disease that is easily spread, particularly in crowded and dirty living conditions. In 1813, the physician Robert Watt wrote a book entitled *A Treatise on the History, Nature and Treatment of Chincough*. Watt, who had lost two of his own children to whooping cough, noted the importance of studying it, claiming that it had not been investigated with 'that care and attention which its frequency and fatality deserved'.[1] Whooping cough was a known disease in the seventeenth and eighteenth centuries and largely affected children, its impact can be traced through the study of records including Dispensary and Infirmary records, the Foundling Hospital and its branches, the workhouses, domestic receipt books and professional medical texts. Whooping cough was little understood in the early eighteenth century, despite the first known mention of it dating back to 1190.[2] Although a cough, the actual parts of the body that were involved in whooping cough were debated in the eighteenth century. Some physicians claimed the disease affected the lungs, whilst others believed it affected the stomach. The study of whooping cough is important because it was a disease that affected the majority of the population at some point in their lives. Watt, like others, recognised that whooping cough was a serious condition. By the middle of the eighteenth century, it had become one of the most dangerous epidemic diseases in England. Demographic and statistical analysis of this disease suggested that between 1701 and 1812, there were periodic epidemics of whooping cough every three to five years, which explains why it was younger, rather than older children who

[1] Robert Watt, *Treatise on the History, Nature, and Treatment of Chincough: Including a Variety of Cases and Dissections; to Which Is Subjoined: An Inquiry into the Relative Mortality of the Principal Diseases of Children and the Numbers Who Have Died under Ten Years of Age in Glasgow during the Last Thirty Year* (Glasgow: John Smith and Son, 1813), p. vii.
[2] Robert Weston, 'Whooping Cough: A Brief History to the 19th Century', *Canadian Bulletin of Medical History*, 29:2 (2012), 329–49.

contracted the disease.[3] As with smallpox, whooping cough was believed to be a disease that could only be caught once in a lifetime.

This chapter will examine the extent to which whooping cough was a prevalent disease in the eighteenth century, and will examine domestic receipt books, professional medical texts, and the medical records of the Foundling Hospital, workhouses, Dispensaries and infirmaries. Texts written by Buchan, Armstrong, and Wesley amongst others, give insights into how whooping cough was treated in this period. Specific treatises on the disease, such as those by Watt, Thomas Kirkland, and William Butter, provide evidence of how whooping cough was identified and treated, and discuss the areas of the body that were believed to be affected during a case of whooping cough. Several experiments in the treatment of whooping cough were undertaken in this period, including by Armstrong and Butter who used of hemlock to treat the disease. Armstrong believed that his experiment proved hemlock was a safe medicine for this disease, but his original notes no longer survive. Whilst Ashley Mathisen has recently examined the hemlock trials undertaken by Armstrong,[4] this chapter aims to re-examine the risks posed by the hemlock treatment and to study it within the broader context of experiments undertaken on whooping cough sufferers during this period. Using Armstrong's numbers, the hemlock trials do not appear to have been as dangerous as some of the other experiments undertaken, particularly on foundling children. This chapter expands our knowledge of these experiments, and assesses their danger and effectiveness in greater depth.

Whooping cough was discussed in domestic receipt books, but these texts did not include information on how to diagnose it. Physicians found it difficult to diagnose

[3] C.J. Duncan, S.R. Duncan, and S. Scott, 'Whooping Cough Epidemics in London, 1701-1812: Infection Dynamics, Seasonal Forcing and the Effects of Malnutrition', *Proceedings: Biological Sciences*, 263:1369 (1996), 445–50.
[4] Mathisen, 'Mineral Waters, Electricity, and Hemlock'.

whooping cough prior to the whoop aspect of the disease being present. Before the whoop developed symptoms of whooping cough resembled those of the common cold. Physician Thomas Willis claimed that the treatment of individuals with whooping cough was left to 'old women and quacks'.[5] This chapter aims to challenge this view, showing that whooping cough was treated in a variety of settings, including the home, and by a variety of different individuals.

Whooping cough has been discussed in scholarship on institutions such as workhouses, the Foundling Hospital and Dispensaries, but little has been written on it as a disease in itself. Anne Hardy included a chapter on whooping cough in her examination of infectious diseases, but her study focused on the later part of the nineteenth century.[6] Hardy noted that whooping cough was prevalent in children who worked in mining. Kirby's discussion of childhood health and industrial work did not mention whooping cough.[7] Whooping cough was noted by Levene as being present in the Foundling Hospital, as well as being the cause of many deaths.[8] Weston's analysis of whooping cough takes the reader from the first mention of the disease, in 1190, to the beginning of the nineteenth century. Although much of his analysis focusses on the eighteenth century, he argued that little significance was attached to the disease, and suggested that it was little acknowledged before the nineteenth century.[9]

This chapter will argue that whooping cough was widely discussed in the eighteenth century. Although the causes and areas of the body affected by the disease were not clearly identified, the presence of phlegm was generally acknowledged as a cause of morbidity by physicians. In some cases phlegm was thought to be in the lungs,

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[5] Dr Thomas Willis (1621-1675). Quoted in Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. viii.
[6] Anne Hardy, *The Epidemic Streets: Infectious Disease and the Rise of Preventative Medicine, 1856-1900* (Oxford: Clarendon Press, 1993).
[7] Kirby, *Child Workers*.
[8] Levene, *Childcare, Health and Mortality*, p. 162.
[9] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 329.

in other cases in the stomach. Domestic receipt books also emphasised the need to remove phlegm, as part of the treatment. Whooping cough was treated by methods underpinned by humoral understandings prior to the use of hemlock. The use of hemlock by George Armstrong was contentious. Some physicians argued that it was dangerous, whilst others suggested that it was a valuable treatment. This chapter examines the numbers associated with Armstrong's hemlock experiment, and identifies issues of child welfare that trials involved. Records of dispensaries, the Foundling Hospital and domestic receipt books, along with physicians' text and case books, along with Armstrong's records of his hemlock trials, will be used to show that children who suffered from whooping cough were treated.

Whooping cough was an identifiable disease in the eighteenth century. According to Weston, the disease had been present throughout the early modern period, but its incidence increased during the seventeenth and eighteenth centuries.[10] Whooping cough became a serious health concern during the eighteenth century, possibly due to the development of a new strain of the disease.[11] The manner in which eighteenth-century physicians discussed the disease supports this assertion, as medical writings highlighted how the disease was dangerous throughout the eighteenth century. Whooping cough was referred to in the middle of the eighteenth century in texts such as Buchan's *Domestic Medicine*, Armstrong's *An account of the diseases most incident to children* and his *An essay on the diseases most fatal to infants*, and in Wesley's *Primitive Physick*. Whooping cough was also featured in domestic receipt books. John Burton, writing in 1738, added an essay on the chin cough to his treatise on the non-naturals, but the earliest specific

[10] Weston, 'Whooping Cough: A Brief History', p. 329.
[11] Ibid., p. 337.

treatise on whooping cough alone is *Observations on the asthma and on the hooping cough*, by John Millar, dated to 1769.[12]

4.1: Contemporary views of whooping cough

Different people used different terms for whooping cough in the eighteenth century. The earliest mention of the disease was in 1190, when it was termed kinkhost. Weston noted various other terms from England, Scotland and across Europe, which included chincough, chincofe, and the kink.[13] There was no consensus on the name or spelling during the eighteenth century, but the three main labels that were used were chin cough, kink cough and hooping cough. The first recorded use of the term 'chincough' dates to 1519, when William Horman claimed to have the disease.[14] Hooping cough and chin cough were used interchangeably throughout the eighteenth century. Mary Kettilby used the term chin cough in the first edition of her text *A Collection of above three hundred receipts in Cookery, Physick, and Surgery*, dated to 1714.[15] By the third edition, printed in 1724, Kettilby was using the term hooping cough and had also changed the receipt.[16] The physician Robert Watt (1774-1819) discussed the terminology of whooping cough. He stated that the term 'kinkcough' was largely confined to Scotland, and although Watt used evidence from Glasgow in his text, he decided not to use this term. He claimed that it was a 'provincial term, [is] harsh and difficult to be pronounced, and besides it does not convey with sufficient precision the idea intended'.[17] Watt also felt that the term

[12] John Millar, *Observations on the Asthma, and on the Hooping Cough* (London: Printed for T. Cadel (successor to Mr. Millar) T. Noteman, in the Strand; and Johnston and Payne, in Pater-noster Row, 1769); Burton, *Treatise on the Non-Naturals*.
[13] Weston, 'Whooping Cough: A Brief History', p. 332.
[14] 'Chincough', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/31760> [accessed 6 February 2017].
[15] Kettilby, *Collection of above Three Hundred Receipts*.
[16] Mary Kettilby, *A Collection of above Three Hundred Receipts in Cookery, Physick and Surgery for the Use of All Good Wives, Tender Mothers, and Careful Nurses. By Several Hands. To Which Is Added a Second Part, Containing a Great Number of Excellent Receipts, for Preserving and Conserving of Sweet-Meats, &c.*, 3rd edn (London: Printed for Mary Kettilby, 1724).
[17] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, pp. 18–19.

'hooping cough conveys an erroneous notion of the disease', therefore chincough was the best of a limited terminology.[18] Different terminology was used in the Bamburgh Castle Dispensary records. Although the records appear to have been written in one hand, the administrator used both whooping cough and chin cough to describe the whooping cough condition. There could be two reasons for the differences in terminology. First, whooping cough and chin cough may have been considered to be two different diseases by those working at the Bamburgh Castle Dispensary. This explanation is unlikely, as whooping cough was mentioned much more often than chin cough and at one point both are mentioned on the same day. On 9 November 1799, two children presented with whooping cough and two children presented with chin cough. The handwriting on both entries was the same.[19] The second reason, and perhaps the more likely reason, was that there would have been more than one apothecary present in the Dispensary, and one may have preferred to use the name chin cough and the other preferred the name whooping cough. However, parents may also have brought their children to the Dispensary claiming their child had 'hooping cough' or 'chin cough' and their diagnosis was then recorded. As there is no evidence of either of these suggestions, the second is more likely, as it is the simpler explanation. No other records have been found that suggest whooping cough and chin cough were two different conditions. The Newcastle Dispensary records used the term whooping cough, and chin cough was not mentioned.

Whooping cough was recognised enough to be recorded in the London Bills of Mortality. Occasionally whooping cough was listed with cough, and often it was noted by itself as either chin cough or whooping cough. In the 1680s, whooping cough was responsible for few deaths, with average numbers of between 5 and 10.[20] Some years, such as 1689, 1712, and 1715, did not record any recognised terms for whooping cough

[18] Ibid., p. 19.
[19] NRO, 00452/D/8/2/4, Dispensary Book Similar Register of Patients Admitted, April 1793-June 1816.
[20] Millar, *Collection of the Yearly Bills of Mortality*.

in the list of deaths. However, the number of individuals who died from whooping cough began to increase from 1716. After this date, outbreaks of whooping cough became regular across the country. In 1772, whooping cough was identified in the north of England, and in 1794 whooping cough caused the deaths of six children in Kent.[21]

Whooping cough became more of a focus for physicians in the second half of the eighteenth century, although many still only discussed it within general medical treatises. John Burton and William Buchan were amongst the first to discuss whooping cough in general terms followed by William Butter who advocated the use of hemlock as a treatment. George Armstrong took Butter's advice, and received the disapproval of John Coakley Lettsom, who disliked the use of hemlock and focused his anger on Armstrong. William Buchan wrote the first edition of his *Domestic Medicine* in 1769, and described whooping cough within the text. Although whooping cough was generally believed to be a disease of childhood, Buchan did not place whooping cough in the childhood diseases section of his text, which indicates that the disease could affect adults even if it mainly affected children. William Butter wrote a treatise entitled *A treatise on kinkcough with an appendix on hemlock* in 1773. This text was one of the first to focus solely on whooping cough. As with many of the other texts discussed here, Butter's was a medical text and was not written with domestic medicine in mind. Butter argued that whooping cough was a disease of infants, women and those with a 'delicate tender habit', thus pointing out that whooping cough was not just a disease of childhood.[22] In his text, Butter discussed the use of hemlock as a treatment for whooping cough.[23] George Armstrong began using hemlock in the Dispensary for the Infant Poor in London in 1777.[24] The use of hemlock

[21] Mary J. Dobson, *Contours of Death and Disease in Early Modern England* (Cambridge: Cambridge University Press, 1997), pp. 440, 447.
[22] William Butter, *A Treatise on the Kinkcough. With an Appendix, Containing an Account of Hemlock, and Its Preparations* (London: T. Cadell, 1773), p. 50.
[23] Ibid., pp. 59–163.
[24] Armstrong, *Account of the Diseases Most Incident to Children*.

on poor, sick children caused outrage. John Coakley Lettsom was Armstrong's fiercest critic, and although Armstrong had copied Butter's approach, it was Armstrong who was criticised for his use of the poisonous ingredient.[25] In response to Butter's *A treatise on Kinkcough*, physician Thomas Kirkland wrote *Animadversions on a later treatise on the kinkcough*. Although it is not explicit that Kirkland was responding directly to Butter, there are several indications that this was the case. Kirkland directed his preface to 'Dr B---', and discussed the 'treatise on the kink-cough', the title of Butter's text.[26] An attack on the use of hemlock was also contained within Kirkland's text, which again supports the suggestion that it was aimed at the work of Dr Butter. The title of Kirkland's piece alone suggests an attack, which is certainly what the text resembled.

Whooping cough was considered to be infectious by most physicians during the eighteenth century. Buchan noted that 'most diseases of children are infectious, nor is it at all uncommon to find the chin-cough prevailing in one town or village, when another, at a very small distance, is quite free of it'. However, Buchan did not use the word infectious in his discussions of this particular disease.[27] Instead, Buchan blamed bad diet and unwholesome air, along with a lack of exercise as being the causes of whooping cough in children.[28] The efficacy of the simple act of removing a child from an infectious disease environment was pointed out by Buchan, but he did not mention that this could lead to the disease spreading further. The records of the children at the Foundling Hospital do not give a clear indication of what happened to children when they were sent out from the Hospital for their health. Records from the Chester branch of the Foundling Hospital indicate that children who suffered from whooping cough, smallpox and measles were often sent there. Chester may have been chosen because it was a market town and had

[25] John Coakley Lettsom. Quoted in Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 41.
[26] Thomas Kirkland, *Animadversions on a Late Treatise on the Kink-Cough. To Which Is Annexed, An Essay on That Disorder* (London: R. Baldwin, and J. Bew, 1774), p. 1.
[27] Buchan, *Domestic Medicine*, 7th edn, p. 226.
[28] Ibid., p. 225.

cleaner air than London. The records note the number of the child from the London Foundling Hospital and the number given to the child when they arrived at Chester.[29] The retention of both the London and Chester numbers perhaps indicates the fact that the children may have gone back to London once cured. Many of the children these record were noted to have either smallpox, measles or whooping cough, and some were listed as suffering from all three. No other illnesses were noted in this particular record, which suggests that children in London were sent to Chester only when they suffered from these three diseases.[30]

Children from the Foundling Hospital who were young enough to need nursing were placed with nurses in the countryside and were inspected regularly. Whooping cough was one of the main conditions noted to be affecting these children, and was one of the main causes of death at the Foundling Hospital during the eighteenth century.[31] Whooping cough was also recorded as being one of the conditions that stopped participation in the experimentation undertaken by Robert McClellan, the hospital apothecary, which used Powis Wells Water in an attempt to cure various skin and eye conditions.[32] Although the use of Powis Wells Water was unlikely to have had any positive or negative effect on whooping cough, the presence of the condition was enough to have sufferers removed from the experiment. Provisions were available for infected children to be removed to isolation, or at the very least moved to one of the Foundling Hospital infirmaries for treatment. Moving children into isolation, or into the infirmaries for treatment, shows that the Foundling Hospital understood the need to treat its sick children, and took steps to prevent the spread of infection where possible. However,

[29] LMA, A/FH/A/10/009/001, Register of Children sent to Chester Hospital and Chester Nursery, 1763-1767.
[30] It is unclear where the records for the Chester Hospital were created. If created in London, it suggests that only children who suffered from whooping cough, smallpox and measles were sent to Chester. If they were recorded in Chester, it suggests that the records are not complete, because it is inconceivable that only these three diseases were present in the Chester branch Hospital.
[31] LMA, A/FH/A/29/003/001, Matron's Reports on Children at Nurse, 1798.
[32] LMA, A/FH/A/18/009/001, Apothecary's notes (in English).

isolation of sick children was not unique to whooping cough, as children with all types of infectious illnesses were isolated, although they were isolated together.[33]

4.2: The diagnosis of whooping cough

Those who cared for children with whooping cough in the eighteenth century were expected to know the patient had whooping cough without medical training. Domestic receipt books did not include information on how to diagnose specific conditions, indicating that those using these texts were able to identify, or were at least familiar with, the symptoms of each condition. Buchan himself noted that whooping cough was such a well-known disease that nurses could identify it from the symptoms.[34] However, physicians found it difficult to distinguish the early stages of whooping cough from asthma, fever, and the common cold. Whooping cough was undeniable only once the whoop began. The domestic receipt books do not mention complexities, perhaps because in domestic medicine children were often treated for their symptoms, such as cold and fever. Physician John Hancocke stated in *Febrifugum Magnum* that professionals seldom cured the disease; that whooping cough cured itself rather than being treated.[35] The belief that whooping cough was left to cure itself helps explain why the care of individuals with whooping cough might be left to those described by Willis as 'old women and quacks'.[36] Whooping cough resembled a common cold prior to the appearance of the 'hooping' or 'kink' sound.[37] The middling stages of the illness were compared to typhus and typhoid in terms of the state of respiration, the stomach, and the bowels. It was also confused with

[33] LMA, A/FH/A/18/004/002, Weekly list of the sick, The Brill, St Pancras, February 1759-October 1759.
[34] Buchan, *Domestic Medicine*, 7th edn, p. 362.
[35] John Hancocke, *Febrifugum Magnum: Or, Common Water the Best Cure for Fevers, and Probably for the Plague. With a Discourse of Curing the Chin-Cough by Water*, 8th edn (London: J. Roberts, 1726), p. 116.
[36] Dr Thomas Willis (1621-1675). Quoted in Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. viii.
[37] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 51.

asthma and bronchitis.[38] A fever was occasionally noted with whooping cough, adding further similarities to the common cold or the flu.[39] Butter also recorded that: 'generally the patient hath a bloated, languid, wan appearance: his belly is costive; his urine is pale, through mostly with sediment; and his limbs are cold'.[40] Whilst these symptoms were to be considered when treating a potential case of whooping cough, it was always the 'hoop' of the cough that finally confirmed the whooping cough diagnosis. In addition, the predisposing factors noted by Buchan and Butter were to be taken into account when considering whooping cough as a diagnosis.

4.3: Medical theories of whooping cough

During the eighteenth century, there were many theories about which parts of the body were affected by whooping cough, and how best to treat them. As the medicine advised by physicians depended upon their theories about the disease, this section will outline the various theories that were used by physicians to support particular treatments of whooping cough. Many of the physicians discussed here agreed that phlegm was involved, but there was a difference of opinion on whether the phlegm was situated in the lungs, the stomach, both, or neither.

Nicholas Culpeper, in the seventeenth century, wrote that phlegm was the main cause of whooping cough.[41] John Burton, writing in 1738, also acknowledged phlegm as the cause of whooping cough, and argued that the phlegm was caused by the weakness of digestive faculties and common food.[42] In contrast to Burton, Buchan blamed living conditions for the excess phlegm which caused whooping cough.[43] In his treatise on

[38] Ibid.
[39] Butter, *Treatise on the Kinkcough*, p. 3.
[40] Ibid., p. 4.
[41] Culpeper, *Culpeper's Complete Herbal*, p. 258.
[42] Burton, *Treatise on the Non-Naturals*, p. 346.
[43] Buchan, *Domestic Medicine*, 7th edn, p. 225.

whooping cough and asthma in 1769, Miller acknowledged that phlegm was a problem and that it was the phlegm that caused the problems patients suffered with their breathing.[44] William Butter, writing in 1773 acknowledged phlegm as a cause of whooping cough, as did George Armstrong in 1777.[45] Butter pointed out that, when an individual suffered from whooping cough, 'there is an uncommon secretion of slime or mucus in the kinkcough; and the free discharge of this out of the body always mitigates the symptoms'.[46]

Phlegm needed to be removed from the body in order to treat whooping cough. Culpeper advocated the use of thyme, as it 'purges the body of phlegm and is an excellent remedy for the shortness of breath'.[47] Burton argued that phlegm needed to be dissolved, although he did not provide information on how this could be achieved. He argued that coughing often helped, but noted that children were thrown into fits when coughing did not expel the phlegm.[48] Millar argued that the body was to be kept open in order to allow the phlegm to leave the body. Millar suggested a remedy which used asafoetida, which had worked well in Millar's experience of treating asthma.[49] Buchan first suggested a change of air to rid the body of phlegm, but he also noted that, when the whooping cough was violent, the patient needed to be bled, as 'the chief intention of bleeding is to prevent an inflammation of the lungs'.[50] Both Buchan and Armstrong also advised that the patient drink hyssop, which Culpeper pointed out 'helps to expectorate tough phlegm and is effectual in all cold griefs of the chest or lungs, being taken in either syrup or licking medicine'.[51] However, Culpeper had not recommended hyssop as a remedy for whooping

[44] J. Millar, *Observations on the Asthma*, p. 128.
[45] Armstrong, *Account of the Diseases Most Incident to Children*, p. 104; Butter, *Treatise on the Kinkcough*, p. 19.
[46] Butter, *Treatise on the Kinkcough*, p. 14.
[47] Culpeper, *Culpeper's Complete Herbal*, p. 258.
[48] Burton, *Treatise on the Non-Naturals*, p. 347.
[49] Millar, *Observations on the Asthma*, p. 132.
[50] Buchan, *Domestic Medicine*, 7th edn, p. 226.
[51] Culpeper, *Culpeper's Complete Herbal*, p. 134.

cough, despite its efficacy in removing phlegm from the body. In addition to bleeding and hyssop, Buchan advised vomiting as a remedy, as when coughing made patients vomit, it 'cleanses the stomach and greatly relives the cough'.[52] William Butter argued that the expectorating of phlegm was a sign that health would soon return, suggesting that the removal of the phlegm was the most important part of the treatment and cure of whooping cough.[53] Physician Robert Watt, writing in 1813, opened up his own child after it had died from whooping cough, and found that the lungs of the child were clogged with fluid.[54]

Whilst it was widely acknowledged that phlegm was the main cause of whooping cough, the area of the body in which the phlegm was seated was not agreed upon. Culpeper pointed to a shortness of breath, but did not identify the lungs as the location of the disease.[55] Burton argued that the digestive faculties, and therefore the digestive system, led to whooping cough, but he also acknowledged that whooping cough was seated within the lungs. He argued that if the 'vessels of the lungs' were weak, the blood would become thick, thus leading to an infection of whooping cough. Viscid lodging in the lungs that were not expelled upon coughing led to convulsions, therefore, the lungs played a significant role in the development of whooping cough.[56] Burton also noted the role played by the stomach in whooping cough. His discussion of the impact of weak digestive faculties and common food suggested that the stomach was also involved, but he did not assert this explicitly.[57] John Millar argued that both the stomach and the lungs were involved in whooping cough, and that both were filled with phlegm. William Buchan agreed that the stomach was the seat of whooping cough, although he did also

[52] Buchan, *Domestic Medicine*, 7th edn, p. 227.
[53] Butter, *Treatise on the Kinkcough*, p. 22.
[54] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 122.
[55] Culpeper, *Culpeper's Complete Herbal*, p. 258.
[56] Burton, *Treatise on the Non-Naturals*, p. 347.
[57] Ibid.

point out that at first he thought that the lungs were the main focus, but he had determined that it was, in fact, the stomach.[58] George Armstrong identified the lungs as being the area in which whooping cough was focused. Armstrong had conducted an autopsy on a two year old child, and 'found the lungs, especially in the back and lower part, had been a good deal inflamed, but without any appearance of suppuration, or mortification'.[59] In addition to the lungs, Armstrong had also located phlegm in the stomach. Butter argued that the larynx, pharynx, lungs and the stomach played a role in whooping cough. Again, these areas were filled with phlegm. Thomas Kirkland felt that Butter had not argued sufficiently for the stomach, lungs, larynx and pharynx as the main seats of the disease. Kirkland argued that whooping cough was set in the stomach, and also in other areas of the body, although he declined to mention which other areas he believed were involved.[60] Robert Watt compared whooping cough to bronchitis, and identified that the main seat of the disease was in the lungs. He also identified other parts of the body which he felt were affected by the disease. In addition to bronchitis, Watt linked whooping cough with croup, and also with the bowels and urinary tract.[61] The breathing of the patient was the most important aspect of the disease, for Watt regardless of the age, sex or constitution of the patient.

In addition to phlegm and food, Buchan also acknowledged the air as a cause, and therefore a remedy, for whooping cough in the eighteenth century. Buchan advised that the air be changed when a patient developed whooping cough, and argued that those who 'breathe unwholesome air, and have too little exercise, are most liable to this disease, and generally suffer most from it'.[62] Buchan was the only one of the physicians to acknowledge the role the air and other non-naturals played in medicine during the

[58] Buchan, *Domestic Medicine*, 7th edn, p. 226.
[59] Armstrong, *Account of the Diseases Most Incident to Children*, p. 104.
[60] Kirkland, *Animadversions on a Late Treatise on the Kink-Cough*, p. 14.
[61] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 80.
[62] Buchan, *Domestic Medicine*, 7th edn, p. 225.

eighteenth century. He suggested that a change of air would help the patient, as by extension, the lungs would breathe in air that did not carry whooping cough. A change of air was one of Buchan's most important suggestions to the Foundling Hospital.

The varying theories to which the physicians who treated whooping cough subscribed had a direct impact upon the treatment that they provided to those who suffered from the disease. The lack of agreement regarding where in the body whooping cough was located led to many different remedies to treat the disease. Robert Watt argued that few physicians conducted autopsies because they thought that once the disease had caused death, there would be no evidence of it left within the body.[63] However, Watt's autopsies conducted on his own children proved this point of view to be incorrect. One aspect of whooping cough was that the disease had been little researched, hence the need to find new ways of treating it according to theory of each physician. Physicians who identified phlegm as the chief cause of the disease were likely to have different ideas on treatment to those who identified the stomach or the air as the chief causes of whooping cough. However, humoral understandings of whooping cough were predominant in the eighteenth century, and treatments therefore were primarily humoral, and aimed to restore a balance and health.

4.4: Humoral treatment

Whooping cough was viewed largely from a humoral standpoint. Culpeper, writing in his *Complete Herbal*, mentioned the chincough and the need to purge the body of phlegm, which was what caused the disease.[64] Buchan and Burton were adamant that phlegm was out of balance when a patient had whooping cough.[65] Bleeding and vomiting

[63] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. viii.
[64] Culpeper, *Culpeper's Complete Herbal*, p. 258.
[65] Burton, *Treatise on the Non-Naturals*, pp. 346–7; Buchan, *Domestic Medicine*, 7th edn, p. 225.

were advocated as ways to rid the body of the phlegm that caused whooping cough. If vomiting was to be induced, rather than brought on naturally through the cough, ipecacuanha, camomile tea or luke-warm water were to be used.[66] Buchan clearly felt that the balance of the body needed to be restored, and that bleeding and vomiting would clear the illness. He also advocated a change of air. A change of air, he suggested, should be done as soon as whooping cough was diagnosed, despite the highly infectious nature of the illness.[67] Buchan claimed that a bad diet, unwholesome air and too little exercise were the main causes of whooping cough. Therefore, a change of air immediately removed the toxins from the air, thus releasing the patient from the disease.

Purges and vomits were used in remedies that were intended to rebalance the humours. In 1726, Hancocke quoted Drs Willis and Sydenham in a recommendation for the treatment of the chin-cough. Dr Willis suggested that a specific of cup-moss would have been an acceptable cure for the chin-cough, or to put the child into a 'sudden fright'. Hancocke disagreed with Willis' remedy, worrying that the remedy may have ended up worse than the disease, and, for example, put the child into incurable fits.[68] Willis' other remedies concerning the chin-cough were largely purgative, with purging and vomiting being the two main remedies. In addition, Willis also suggested blistering, particularly at the nape of the neck, behind the ears, or on the inside of the arms, near the armpits. When these blisters dried up, new ones were to be made in other places. Sydenham, according to Hancocke, also advocated the evacuative approach, with bleeding and a long course of purging being recommended. Hancocke disagreed, wondering how it would have been possible to make a child stick to this regime. Hancocke himself suggested that a 'spoonful

[66] Buchan, *Domestic Medicine*, 7th edn, p. 364.
[67] Ibid., p. 363.
[68] Hancocke, *Febrifugum Magnum*, pp. 118–19. Unless otherwise stated, all information in this passage taken from this source.

of flowers of sulphur boiled in a quart or three pints of water, and a small glass of it taken morning or evening would do better'.

Burton disagreed with the use of vomiting and bleeding. However, he acknowledged the importance of restoring and maintaining humoral balance. Burton's text on the non-naturals indicates its humoral approach to various illnesses through its title, and by the dedication to and use of the work of Herman Boerhaave. Burton also blamed a build-up of phlegm within the lungs and bronchia as being the main cause of the disease. His mentions of the viscid humour when discussing evacuations again points to the humoral causes of whooping cough and form the basis of the treatment. Purging, and the use of diuretics, were recommended by Burton in his cure, although he stopped short of advising the use of vomits because 'it commonly shook them, and made 'em cough the more, and the last, because it was contrary to the indication of cure, notwithstanding it being the greatest part of the common method of treating them at this time'.[69] Bleeding, Burton suggested, caused the illness to continue for much longer.[70] Therefore, whilst Buchan advocated bleeding, purging and vomiting, Burton was much more conservative in his views on this type of humoral treatment. Buchan did insist that the size, age, and constitution of the individual children should be taken into account when these remedies were performed, but Burton disregarded them all together, labelling them dangerous.

George Armstrong held similar views to those of Buchan, but was not as rigid, particularly when it came to bleeding his patients. In his *An Essay on the Diseases Most Fatal to Infants*, published in 1769, Armstrong gives an example of a young girl, just under two years of age, who was suffering from the whooping cough. She was 'violently

[69] Burton, *Treatise on the Non-Naturals*, p. 350.
[70] Ibid., p. 349.

seized' by the whooping cough, and also suffered from measles.[71] Armstrong noted that this child had been bled once, and due to her weakness, he decided against bleeding her for a second time. However, despite this belief at the time, Armstrong claimed that when he opened the child up after her death, he regretted not bleeding her because he found 'the lungs, especially in the back and lower part, had been a good deal inflamed, but without any appearance of suppuration, or mortification'.[72] Therefore, Armstrong advocated the use of humoral techniques in the treatment of whooping cough before his use of hemlock later in the century. Armstrong went on to describe the treatment he gave other children who suffered from the whooping cough in more detail again with a humoral technique through the use of 'antimonial mixture by way of puke and vomits'.[73] Armstrong used a mixture of ipecacuan wine and oxymel of squills on a child of eight.[74] This mixture cleaned the stomach of phlegm, but had no effect upon the cough. The treatment was tried several times, and did not produce good results.[75] Armstrong's observation suggests that various remedies worked for some patients but not others, which is consistent with the fact that a number of different remedies were given in almost all domestic and medical texts.

Buchan's advocacy of a change of air was followed through at the Foundling Hospital's branch institutions. Children were sent from the London Hospital to Shrewsbury and Chester branches, as they were more rural and had cleaner air. Armstrong also noted the use of air in the treatment of whooping cough, by ending this section of his book with the following note: 'the hooping-cough is a very obstinate complaint, and even the change of air, so much celebrated in this disease, though in some patients, it had

[71] Armstrong, *Essay on the Diseases Most Fatal to Infants*, p. 92.
[72] Ibid., p. 93.
[73] Ibid., p. 94.
[74] Ibid.
[75] Ibid., p. 95.

remarkable good effect, yet to others it affords no sensible relief'.[76] However, Buchan was adamant that different air was required as part of the treatment for whooping cough, although he acknowledged that it was not the only method of treatment. Buchan suggested that children with whooping cough be moved as 'one of the most effectual remedies in the chin-cough is change of air. This often removes the malady even when the change seems to be from a purer to a less wholesome air'.[77] Buchan's observation that a move from pure to impure air could assist in the treatment of whooping cough is striking. His view referenced a belief that it was not the quality of the air that was perceived to treat whooping cough, rather, it was important to remove sufferers from air in which the infection was present.[78]

The perceived importance of clearing phlegm out of various parts of the body was illustrated by the use of purging medicines. Physician Thomas Kirkland suggested the use of cantharides, a diuretic, as a treatment for whooping cough.[79] He indicated that this remedy was an effective treatment whether taken inwardly or applied externally. He also stated that the use of purging medicines 'especially emetic tartar, &c. by clearing the primae viae', were also favourable treatments.[80] These examples demonstrate that there was a continuation of humoral treatment over the course of the eighteenth century, both in professional and domestic medicine, but as we shall later see, the humoral treatments were by no means the only way of treating whooping cough.

The humoral treatment for whooping cough is an important aspect of care to be examined. Humoral beliefs were prevalent in the eighteenth century and influenced the initial treatment for whooping cough. Although new treatments such as hemlock were developed, as we will see, the humoral balance was still an important aspect of treatment.

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[76] Ibid.
[77] Buchan, *Domestic Medicine*, 7th edn, p. 226.
[78] Ibid.
[79] Kirkland, *Animadversions on a Late Treatise on the Kink-Cough*, p. 22.
[80] Ibid., p. 23.

4.5: Whooping cough in domestic receipt books

Authors of eighteenth century texts recommended a range of treatments for whooping cough. Willis' statement that the treatment of whooping cough had traditionally been 'left to the management of old women and quacks', was not borne out by the domestic receipt books as not every household or domestic receipt book included a remedy for whooping cough.[81] Hannah Woolley's *The Queen-Like Closet* did not include whooping cough as a specific condition, but did provide several remedies for various types of cough which may have covered whooping cough.[82] Omissions of whooping cough from domestic receipt books support the notion that it was not widely recognised as a condition, but also suggest that it was not always recognised as distinguishable from a cold or cough.

The ingredients of the remedies for whooping cough in many of the domestic receipt books were all, as Nicholas Culpeper noted, so well-known that they did not need to be described.[83] Accessibility and recognisability of ingredients were key aspects of the production of these remedies. For a cough, Culpeper suggested that rosemary should be 'taken in a pipe, as tobacco is taken', but he made no mention of it being mixed with ivy and hyssop to create the medicinal cure for the whooping cough recommended by Mary Kettilby.[84] However, when describing the virtues of hyssop, Culpeper discussed how to mix the ingredient with others for some medicines. He suggested that mixing hyssop with rue and honey and drinking the resultant mixture, 'helps those that are troubled with coughs, shortness of breath, [and] wheezing'.[85] Culpeper claimed that hyssop was

[81] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. viii.
[82] Woolley, *Queen-like Closet*.
[83] Culpeper, *Culpeper's Complete Herbal*.
[84] Culpeper, *Culpeper's Complete Herbal*, p. 220; Kettilby, *Collection of above Three Hundred Receipts*, p. 78.
[85] Culpeper, *Culpeper's Complete Herbal*, p. 134.

effective at 'expectorate[ing] tough phlegm, and is effectual in all cold grief's (sic) or diseases of the chests or lungs, being taken either in syrup or licking medicine'.[86] Ingredients that were known to be purgatives were mixed together or used alone and illustrate that Culpeper believed that the phlegm needed to be expelled from the body.

The types of ingredients used within domestic medicine for the treatment of whooping cough were largely summer- or spring-blooming plants and herbs, although these texts do not comment on the seasonality of whooping cough. The suggested herbs and plants were well known and widely available in these seasons. Some ingredients suggested could only be collected for use at certain times of the year, but there is no mention in any of the receipt books that these medicines could or could not be made and stored. As whooping cough affected individuals all year round, medicines were required throughout the year suggesting that these medicines were made and stored for future use, either within family homes or by an enterprising grocer or apothecary.[87] The storing of medicines is an interesting point, as it shows that individuals were aware of the diseases that could strike, and took precautions to ensure that there were remedies available, should they be needed.

The remedies recommended in the domestic texts were all drinks. The anonymous writer of 'A Book of Phisick' suggested the following two remedies for whooping cough. First:

> Let blood take hartshorn drops in water 2 or 3 times a day, a syrup made of a exgi juice of mellipedes or hoglica drown in white wine and given by spoonfulls will infallibly cure childrens convulsions or chin cough – if these remedies does not cure must change the air.[88]

[86] Ibid.
[87] Withey, *Physick and the Family*, pp. 103, 107, 110.
[88] Wellcome Library, MS.1320, Book of Phisick, p. 138.

Second: ‘Take a glass of sherry mix it with a little water, nutmeg and sugar and give children ½ an hour before dinner. China oranges moderately eaten is good’.[89] The first remedy suggests that if these treatments did not cure the disease at hand, either whooping cough or convulsions, then the approach must change. The importance of air is outlined here and the recommendation of a change of air suggests that the author of ‘A Book of Phisick’ believed like some physicians in the importance of the management of the non-naturals. However, the temperature of the air was not discussed.

Mrs Meade, writing in 1725, advised for whooping cough:

> Take cuppe mosse, dry it and beate it to powder, sieve it very fine, and take as much as will lie upon a six pence and give it a going to bed in barley water with a little syrup of poppies (opium) or give some of the powder in any victuals they [the children] take. Doe not give a child syrup of poppies but at night, going to bed.[90]

The mention of poppy as part of a remedy is one of the few points where domestic overlap with medical texts, some of which suggested that opium was a good cure for whooping cough.[91] The identification of poppy being used in professional and domestic receipt books again demonstrates that the remedies within the domestic medical texts relied upon ingredients which were readily available, thus allowing women to produce medical remedies within the home, especially within the kitchen. Opiates, were known as cough suppressants, and Buchan argued they ‘are sometimes necessary to ally the violence of the cough’.[92] If opiates were unavailable, Buchan argued for the use of laudanum, but stressed that in both cases careful consideration had to be given to the age of the child when judging dosage. Whilst the danger of laudanum and opium were perhaps not

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[89] Ibid., p. 14.
[90] Wellcome Library, MS.3500, Meade, p. 17.
[91] Buchan, *Domestic Medicine*, 7th edn, p. 227.
[92] Marcus Aurin, ‘Chasing the Dragon: The Cultural Metamorphosis of Opium in the United States, 1825-1935’, *Medical Anthropology Quarterly*, 14:3 (2000), 414–41, (p. 418); Buchan, *Domestic Medicine*, 7th edn, p. 227.

perceived in the same way at this time, the dosages of the two ingredients were still altered to fit the age, size and constitution of the child patient.

The remedy recorded by Kettilby in her first edition calls for the preparer to 'dry the leaves of box-tree very well, and powder them small; and give the child of this fine powder in all its meal and drink that it can be disguised in. Tis excellent in that distemper'.[93] Yet the remedy in the fourth edition lists different ingredients, the preparer being ordered to take 'ground-ivy, rosemary and hyssop, of each one handful; distil them in a quart of new milk, and let it drop on a quarter of a pound of sugar candy; take a spoonful night and morning, and as often as you please'.[94] Martha Bradley, writing in 1760, also provides two different remedies for whooping cough in her text, both different from Kettilby's. The first directs that the preparer:

> Roast what quantity of eggs you please until the whites begin to be hardish; then break the tops of the eggs, pour out the yolkes, and fill up the vacancies with white sugar-candy powdered very fine. This done, cover the holes again with pieces of the whites, put them in a clean earthen dish, and set it in hot wood ashes for sometime. Be careful to save all the liquor that runs from them, and give a spoonful of it at a time to the child thus affected.[95]

The second remedy presented by Bradley for the whooping cough required the preparer to 'take a quarter of a pound of brown sugar-candy, and beat it small; put it to a quarter of a pint of aqua vitae, set it on the fire in an earthern pipkin, and boil it to a syrup'.[96]

Sugar candy is the most prominent ingredient in these remedies, although it was specified as white in one of Bradley's remedies and brown in the other. Sugar candy, used to sweeten bitter remedies, was relatively common during the eighteenth century, particularly in remedies for children. Before the mid-seventeenth century, honey was the sweetener of choice, but once sugar became more widely available it was used instead.

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[93] Kettilby, *Collection of above Three Hundred Receipts,* p. 202.
[94] Ibid., p. 78.
[95] Bradley, *British Housewife,* p. 622.
[96] Ibid.

In contrast to Porter and Porter's assertion that 'pre-modern medicine tasted foul', Newton argues that physicians attempted to make medicines agreeable to child patients.[97] Bitter tastes were replaced by sweeter tastes that children found more palatable. If the taste could not be changed, attempts were often made to mask the bitterness by putting medicine in food or drink, or by adding lemon juice. Older children were more likely to be given bitter ingredients in their medicines, although some physicians refused to allow medicinal changes to be undertaken to give children a more pleasant experience and taste.[98] As Buchan advised: 'most children are fond of syrups and jellies', and they would 'seldom refuse even a disagreeable medicine when mixed with them'.[99] The rest of the ingredients which appear frequently in the remedies: ivy, rosemary, hyssop, and eggs, were the types of ingredients that could easily be sourced from the garden or local market. Therefore, in domestic medicine, bitter tasting medicines were diluted for the consumption of children in order to assist in their taking of medicines.

4.6: The treatment of whooping cough by physicians

Physicians across England treated children when whooping cough became epidemic. William Brownrigg, physician to the town of Whitehaven in Cumbria, wrote that in the winter of 1731-32 whooping cough became an epidemic and was 'more or less fatal as the weather altered'.[100] Brownrigg copied out the section on whooping cough from Burton's *A Treatise on the non-naturals* and, using Burton's remedy, he successfully treated 17 out of the 19 children in Whitehaven who had contracted the disease. The two that died were the subjects of detailed descriptions within Brownrigg's casebooks. He recorded that the deceased had either been sick with another illness, or had previously

[97] Porter and Porter. Quoted in Newton, *Sick Child*, p. 83.
[98] Newton, *Sick Child*, p. 84.
[99] Buchan, *Domestic Medicine*, 7th edn, p. 227.
[100] Brownrigg, *Medical Casebook of William Brownrigg*, pp. 69–70. Unless otherwise stated, all quotations in this passage are taken from this source.

recovered then relapsed. Brownrigg took pains to note that the children who recovered did so through the use of effective medicine, not by the change of temperature. When using a different remedy for the treatment of whooping cough, Brownrigg took the age of the children into account when providing remedies for them, with the following remedy for the two daughters of Reverend Dr Ashley:

> Electuary of Peruvian bark 1 oz; Root of elecampane 1 ½ scruples; wormwood 1/2oz; Boil for half an hour in spring water and make up 1 pt, adding at the end: Gum Arabic 1 ½ scruples; liquorice root 2 ½ scruples; aniseed seeds ½ scruple. Strain and add tincture of saffron 1 scruple. Make into an apozem.

This remedy was used after the two girls had been bled by leeches. Brownrigg explained that the elder of the two children, a girl aged eight, took about one ounce of this mixture, and the younger, a girl of six, took six scruples of the mixture, both every three hours with the following: 'tincture of cantharides ½ oz.'. We know that Brownrigg's remedy did not work in the case of these two girls because of the faint addition made to the page 'but it was in vain'. The different remedies prescribed for individuals with whooping cough were never completely effective. The fact that physicians like Brownrigg changed their recipes depending on the child, whilst others recommended the same remedies regardless, further illustrates that the treatment for whooping cough was often experimental, no single treatment was universally accepted.

Children were treated for whooping cough in dispensaries as well as by physicians. Whooping cough epidemics can be identified at the Bamburgh Castle Dispensary in Northumberland. Although the Bamburgh Castle Dispensary records do not note the treatment provided for the children who suffered from the whooping cough, they do note their names, ages, where they were from, and whether they survived their illnesses, which can help to establish when small scale epidemics occurred and survival rates.[101] Cough was a common enough condition within the Bamburgh Castle Dispensary

[101] NRO, 00452/D/8/2/3, Dispensary Register of Patients.

records, affecting adults and children alike. The term whooping cough was used most frequently within these records, although the term chin cough was also noted. The first mention of whooping cough in this source was 27 January 1780. There was a spike of whooping cough cases at this point in the Bamburgh Castle region, as twenty seven children were admitted to the Dispensary for treatment for whooping cough in the first four months of the year.

The ages in the Bamburgh Castle Dispensary ranged from one and a half years old to eight years old, indicating that the disease hit the youngest in society, who had not suffered from the disease in a previous epidemic cycle. The Dispensary records covered the years between 1777 and 1784, and the year 1781 was the year in which the greatest number of children were treated for whooping cough. Twenty seven children were admitted in May of that year, 16 in June, and 24 in July. The disease retreated a little after July, with only small numbers being admitted throughout the rest of the year and throughout the rest of the recorded years. The second Dispensary book, which covered the years 1793 to 1816, likewise had a similar low number of individuals seeking treatment for whooping cough, with only two or three being admitted for treatment each month.[102] Of the children treated for whooping cough at the Bamburgh Castle Dispensary, only three children were discharged 'relieved', whilst the rest of the patients were discharged 'cured'. The term cured was standard eighteenth-century hospital language, and may have used to mean the patient no longer displayed symptoms of their disease. The three children listed as 'relieved' were perhaps not cured, but were discharged whilst under relief from the disease. Although the term is not explained in the records, it likely meant that the disease had been treated, and was not bothering the child further, whilst also not having been entirely cured. The patient had been relieved rather than cured. These three children were siblings, and perhaps a serious strain of the disease, or an underlying

[102] NRO, 00452/D/8/2/4, Dispensary Book Similar Register of Patients Admitted.

health problem prevented the children from being discharged fully cured.[103] Other sibling groups with whooping cough were recorded in the Dispensary records. Adam and James Telford, aged five and three, were admitted on 24 March 1781. Within a week they were discharged cured. George and Dorothy Reikaby, aged five and four, and Hugh, Barbara and Isabel Davison, aged six, one, and four, were also admitted on 24 March 1781 but were not discharged until 14 April. They were discharged cured, but it took longer to cure them of the whooping cough than with the Telford siblings.[104] The fact that entire sibling groups suffered from whooping cough indicates the infectious nature of the disease. As children of the poorer classes had to share beds, the disease was easily able to spread.

In contrast to the Bamburgh Castle Dispensary records, the records of the Newcastle Dispensary are sparse. Ages, names and locations were not recorded, but diseases and numbers were, so a comparison can be made. Like the Bamburgh Castle Dispensary records, the Newcastle Dispensary records did not include treatments for the patients. Whooping cough was a minor disease in the records of the Newcastle Dispensary, with small numbers being treated each year. For example, between 1777 and 1779, only four patients were admitted with whooping cough, three were cured and one died. Seven patients were admitted in 1787-8, four of whom were cured, two were left on the books and one died. The majority of the patients treated at the Newcastle Dispensary for whooping cough were discharged cured.[105] As at the Bamburgh Castle Dispensary records, an epidemic in 1781 can be identified. During the 1780-1781 year, 29 patients with whooping cough were admitted. Twenty two were cured, one was found to be irregular, one was sent to the country for recuperation, one remained on the books, and three died. The large numbers of individuals with whooping cough in both the Newcastle Dispensary records and the Bamburgh Castle Dispensary records suggest that whooping

[103] NRO, 00452/D/8/2/3, Dispensary Register of Patients.
[104] Ibid.
[105] TWA, HO.ND, Dispensary Accounts, 1777-1800.

cough was fairly common in Northumberland in 1780-1781. The prevalence of the disease led many individuals to seek treatment from an apothecary rather than relying upon treatment within the home or by a physician. The remedies used by the Dispensaries were more traditional remedies, and it was only Armstrong's Dispensary for the Infant Poor that began to use the more contentious remedy of hemlock to treat whooping cough.

Children were treated for whooping cough by physicians in a number of different settings including within the home. The main point which this section has established is that treatment for whooping cough was not standardised during the eighteenth century. Brownrigg used the age of his patients to determine the dosages, but the records of the dispensaries do not note whether the ages that were recorded were taken into account when remedies were dispensed. Thus, it is clear that the general approach to the care of sick children which took their age, size and constitution into account was far more important than a standardised remedy.

4.7: Hemlock as a treatment for whooping cough

The use of hemlock as a cure or treatment for whooping cough was a contentious issue during the eighteenth century. Many physicians felt that whooping cough had been neglected, and the first treatise to focus on the disease was Butter's which was published in 1772. George Armstrong developed the use of hemlock as a treatment for whooping cough based on Butter's initial experiments. However, it was Armstrong who faced a backlash for his use of hemlock. This section will examine the use of hemlock as a treatment for whooping cough and the danger it posed to the children who received it. Butter's use of hemlock will be examined, along with the ways in which Armstrong used hemlock to treat whooping cough at his Dispensary for the Infant Poor.

Culpeper claimed that hemlock was 'very dangerous, especially to be taken inwardly'.[106] However, physicians writing later in the eighteenth century openly extolled the virtues of the plant. Armstrong and Butter were among the physicians who claimed that hemlock was the one medicine that could treat whooping cough and control the high mortality rates caused by the disease. Butter was first to advocate the use of hemlock and Armstrong followed Butter's advice. Both men engaged in debate over the use of hemlock, with Armstrong responding to criticisms made by John Coakley Lettsom in the *Gentleman's Magazine*; whilst Thomas Kirkland wrote his scathing *Animadversions on a late treatise on the kink-cough* as a rejoinder to Butter's *Treatise on the Kinkcough.* Lettsom believed that hemlock was an unacceptable treatment for whooping cough, particularly when issued to child patients. However, Kirkland accepted that 'we must … see whether the evidence you [Butter] produce will support the character you give it [hemlock]'.[107] Therefore, although wary of the dangers of using hemlock, Kirkland was sufficiently open-minded to await the results of Butter's work, or at least, he used this rhetoric in his writings.

Butter was convinced of the spasmodic nature of whooping cough, and decided to use hemlock as an effective anti-spasmodic treatment, as it relaxed the muscles and soothed the cough.[108] Butter described twenty cases in which hemlock was used to assist in the treatment and cure of whooping cough. Both children and adults were treated using this method, with varying dosages being prescribed depending on the severity of the disease and the existence of other afflictions within the patients.[109] Butter openly called his work an experiment, but advised physicians in Scotland to use the remedy due to its effectiveness.[110] Armstrong was less encouraging, despite his use of hemlock in

[106] Culpeper, *Culpeper's Complete Herbal*, p. 128.
[107] Kirkland, *Animadversions on a Late Treatise on the Kink-Cough*, p. 22.
[108] Butter, *Treatise on the Kinkcough*, p. 60.
[109] Ibid., pp. 60–157.
[110] Ibid., p. 63.

London.[111] Armstrong wrote that his hemlock remedy was not as effective as Butter claimed, but that the parents of his patients believed the treatment worked.[112] Furthermore, only five per cent of Armstrong's patients died when he used hemlock as a treatment, which was a very low rate of mortality if the debate surrounding the use of hemlock is taken into account.[113] The treatment that Armstrong gave before he began to use hemlock resulted in the deaths of only two per cent of his patients. Armstrong felt that his previous treatment, outlined in his *An Essay on the Diseases Most Fatal to Infants*, was more effective than Butter's hemlock remedy. However, he continued to treat children with hemlock and no further explanation was given for this change.

Hemlock was always mixed with other ingredients, and was not given to any of the patients on its own. These ingredients varied according to the physician and to the patients' constitutions. For a child of three years of age who had recently suffered from measles, Butter gave the following mixture: 'take of spring water, an ounce and a half; lemon-juice, an ounce; syrup of sugar, half an ounce; salt of tartar, forty grains; hemlock-mass, a grain: mix them'.[114] In addition, manna was given with a mixture of two grains of hemlock-mass, and 'in a day or two a third grain was to be added'.[115] For a one year old, Butter recommended the following recipe: 'Take of spring water, two ounces and a half; syrup of pale roses, half an ounce; hemlock-mass, one grain: mix them'.[116] The mixture was continued with an 'addition of two drams of the syrup, and a third grain of hemlock [the second being added earlier]'.[117] Butter did not elaborate on his reasons why the remedy varied for different patients. Two potential reasons for the variation in remedies are the availability of seasonal ingredients at the time the remedy was made up,

[111] Armstrong, *Account of the Diseases Most Incident to Children*, 2nd edn, p. 106.
[112] Ibid.
[113] Ibid., p. 107.
[114] Butter, *Treatise on the Kinkcough*, p. 65.
[115] Ibid.
[116] Ibid., p. 70.
[117] Ibid., p. 71.

and the age or general constitution of the child, which may have been taken into account but not recorded. Armstrong claimed that all of his patients who died after using hemlock did so as the result of a previous sickness. Conditions that Armstrong mentioned included fever, fits and coughs and the weakness of the limbs. These conditions match many of the symptoms that Watt, Butter and Buchan noted to be early indications of whooping cough.[118] The original notes which Armstrong made of his trials no longer exist, so it is possible that he either did not realise that the above were symptoms of whooping cough, or he was trying to cover up the deaths that were caused by whooping cough. Therefore, perhaps these patients may have been severe cases of whooping cough rather than suffering from whooping cough and other illnesses. Although different from Butter's recipe, the fact remains that neither of these physicians prescribed hemlock on its own. Hemlock was always diluted, in Armstrong's case with water and sugar, and, in Butter's case, with spring water, lemon-juice and sugar. The dilution of the hemlock may explain the lack of concern about any risks posed by this treatment.

The use of hemlock to treat whooping cough was not as deadly as its critics feared. Using Armstrong's own numbers, by 1777 he had used hemlock in the treatment of 375 children who suffered from whooping cough. As stated above, only 17 had died (five per cent).[119] By 1783, he claimed to have treated 732, of whom 25 had died (three per cent).[120] Whatever the cause of death, these numbers were impressively low. Furthermore, some of these children were, in Armstrong's opinion, weak and likely to die anyway. He lists nine that were 'very unfavourable cases', often suffering from illnesses other than whooping cough. [121] For example, one child, aged seven weeks, had been ill with 'convulsions, beside the hooping-cough for three weeks, before application was made to

[118] Butter, *Treatise on the Kinkcough*, p. 4; Buchan, *Domestic Medicine*, 7th edn, p. 228; Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 51.
[119] Armstrong, *Account of the Diseases Most Incident to Children*, 2nd edn, p. 107.
[120] Ibid., p. 116.
[121] Ibid., p. 107.

the Dispensary'.[122] Another child, aged seven months, was 'wasted to a skeleton with the cough and a hectic fever, which he had laboured under for two months before the parents applied to the Dispensary'.[123] The other children were not discussed in detail, and Armstrong's notes do not show whether these children died as a result of the whooping cough, the hemlock given to them, or a combination of the two. Other factors could have contributed to the deaths, as Armstrong noted. Several of the children had been ill for some time before the parents had looked to the Dispensary for medical help, or had suffered from weaknesses since birth. Armstrong's list of children who were 'unfavourable cases' gives the impression that, had medical advice been sought sooner for the children, they might have survived the hemlock experimentation. Armstrong was the only person who knew exactly how many of these children died under his care. His original records have not been located, all that survives is his *An account of the diseases most incident to children, from the birth till the age of puberty*. This publication represents the only written record of these statistics, and therefore may not be accurately replicate the actual number of patients which Armstrong treated for whooping cough.

Although Armstrong was attacked for his experiments, it was Butter who first stated that his use of hemlock was experimental. As noted earlier in this section, Armstrong followed Butter's experiments, examined the results, and decided to follow suit. Armstrong may have been so viciously attacked by Lettsom because of the ways in which he undertook his trials. Armstrong was experimenting on poor children who could not have otherwise afford medical care, which may have raised moral questions for Lettsom. Although the morality of undertaking experiments on children was not explicitly raised in the published debates on hemlock, in terms of experimentation in the nineteenth and twentieth century it has been noted that children in institutions were more likely to

[122] Ibid., p. 108.
[123] Ibid., p. 107.

be the subject of medical experiments than those raised outside of institutions.[124] In addition, Ashley Mathisen argues that 'innovative medical practice involving children was perceived as excessively dangerous, carrying a risk which did not justify the use of a new treatment'.[125] The physicians themselves had to acknowledge and assess the risks before undertaking trials on children. Lettsom clearly felt that the risk of death for these children was not worth the potential cure that the experiment could provide. The hemlock trial was perceived to be the most dangerous of the three medical trials analysed by Mathisen. However, the number of subjects who died was still low, particularly in comparison with the number of whooping cough deaths recorded by Watt in Glasgow. Armstrong defended his use of hemlock as a treatment for whooping cough by arguing that the numbers of dead were so high because parents had become more efficient in the reporting of their children's deaths. He implored that no medicine should be dismissed without proper trial.[126] Armstrong therefore defended a remedy that he himself felt was less effective than his previous remedies, and he refused to give up the experiment as he felt he was helping the poor. Armstrong also trialled Lettsom's remedies for whooping cough with less than favourable results. The absence of an alternative treatment led Armstrong to continue his use of hemlock for those suffered from whooping cough.[127]

Kirkland's attack on Butter's work took a different form to Lettsom's condemnation of Armstrong. Where Lettsom concentrated on the risk posed to children, Kirkland was content to simply point out that Butter was wrong on several points, not just on the use of hemlock as a cure or treatment for whooping cough. A key aspect of Kirkland's argument revolved around Butter's belief that whooping cough was

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[124] Susan E. Lederer, 'Orphans as Guinea Pigs: American Children and Medical Experiments, 1890-1930', in *In the Name of the Child: Health and Welfare, 1880-1940*, ed. by Roger Cooter (Oxon: Routledge, 1992), pp. 96–123, (p. 96).
[125] Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 41.
[126] George Armstrong, 'Reply to Dr Lettsom's Observations on some Passages in Dr Armstrong's Diseases of Children', *Gentleman's Magazine*, 47 (1777), 633–5. Quoted in Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 42.
[127] Armstrong, *Account of the Diseases Most Incident to Children*, 2nd edn, p. 112.

spasmodic. Kirkland asserted that Butter had not proved his case sufficiently, therefore his use of hemlock should not encourage other medical personnel to follow suit.[128] However, if hemlock were to be used as an opiate, rather than as an anti-spasmodic, it could allay 'that increased irritability, which the cause of every cough in a greater or lesser degree produces, and which often will occasion frequent coughing for some time after the primary disease is removed', indicating that hemlock could be a useful ingredient when used in conjunction with other methods.[129] Finally, Kirkland stated that: 'what you say, Sir, has been asserted about the cure of the kinkcough, may with equal truth be asserted of every disorder known, as we have not *a certain* cure for any of them'.[130] Kirkland was telling Butter and other readers that there were no guaranteed cures for any disease. Whooping cough was not unique in this regard, hence the number of different remedies suggested by physicians.

However, it is interesting to note that whilst Lettsom was attacking Armstrong, Butter was actively promoting the use of hemlock, and Buchan – although indicating that he had not seen any reliable results – was also using the drug without anything approaching the backlash that Armstrong had experienced.[131] Even forty years later, Watt was using hemlock, raising questions as to whether it genuinely was as dangerous as Culpeper and Lettsom claimed.[132] The continued use of the drug shows that hemlock was not necessarily a dangerous ingredient when used as part of a treatment for whooping cough, provided it was diluted and not given as a remedy on its own.

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[128] Butter, *Treatise on the Kinkcough*, p. 60; Kirkland, *Animadversions on a Late Treatise on the Kink-Cough*, p. 22.
[129] Butter, *Treatise on the Kinkcough*, p. 60.
[130] Kirkland, *Animadversions on a Late Treatise on the Kink-Cough*, p. 21. Emphasis in original.
[131] Butter, *Treatise on the Kinkcough*; Buchan, *Domestic Medicine*, 7th edn.
[132] Watt, *Treatise on the History, Nature, and Treatment of Chincough*, p. 274.

4.8: Conclusion

Whooping cough was a prevalent disease in the eighteenth century. Despite its prevalence, some physicians of the time claimed that it was a disease that was largely ignored until the latter part of the eighteenth century. However, this chapter has proved that whooping cough was not neglected by physicians and other care-givers in the eighteenth-century England. Domestic receipt books show that women treated whooping cough in the home. Physicians' texts also reveal that whooping cough was a condition that was treated by professional physicians and in dispensaries. The records from the Bamburgh Castle and Newcastle Dispensaries indicated an epidemic in Northumberland during the 1780-1781 period, and showed that the parents of sick children took them to the dispensaries rather than treated them exclusively at home. The out-patient form of care offered by the dispensaries provided a bridge between domestic and professional medicine. The increase in the number of patients being treated in institutions may have been due to the large number of sibling groups that contracted whooping cough, making treatment at home difficult, and also perhaps reflects an increased reliance on dispensaries and apothecaries in the treatment of serious diseases such as whooping cough.

The importance of phlegm in the treatment of whooping cough points to the continuing importance of the humours in medical treatment during the eighteenth century, and the lack of agreement on where the phlegm situated itself in the body further complicated treatment. No single remedy was universally accepted. The wide variety of recommended treatments further emphasises the point that in the eighteenth century there was little standardisation of medical care for children or adults, either in general or specifically in the case of whooping cough, although a moderate regimen was still promoted for the treatment of whooping cough. The sheer variety of remedies discussed in this chapter demonstrates how diverse the treatment of whooping cough was during the eighteenth century. Authors of domestic receipt books used treatments that they knew

worked, or that they had been told worked by trusted friends or family. Physicians pursued several treatments for whooping cough, but by the end of the eighteenth century there was still no agreement upon a standardised approach to tackling the disease.

Sufferers from whooping cough were often formally excluded from treatment in infirmaries due to the condition's infectious nature. However, in practice many infirmaries took in children who suffered from whooping cough. The numbers of children who attended St Mary's and St Luke's Chelsea workhouses with whooping cough is limited, suggesting that, in the case of whooping cough at least, the workhouse was not always the only medical option available. Foundling children were treated for whooping cough, and the disease was a relatively large cause of death for Foundling children. The close quarters of children within institutions led to conducive conditions for the spread of diseases such as whooping cough. Experimentation, as with the use of hemlock, indicates that there was an accepted need to find an effective treatment for this condition. The use of hemlock was controversial, but Armstrong in particular received more criticism of his work than appears to be justified based on the outcome of his trials. This chapter has developed that argument by examining the numbers of children that died, and has confirmed that Armstrong's trial should not be seen as a failure, as fewer children died in his hemlock trial than they did using his previous method. The experimentation on children using a poisonous ingredient, such as hemlock, brings into focus issues of child welfare and the ethics of experimenting on children. Armstrong did not see a problem with using hemlock to experiment on children; Lettsom clearly did. However, experiments conducted on children with whooping cough opened the door for the emergence of new treatments in the nineteenth century and eventually paved the way for vaccination in the twentieth century.

Hemlock was not the only, nor even the most important, remedy for whooping cough in the eighteenth century. Only a small number of physicians used hemlock; many

more used humoral medicine. Domestic receipt books did not mention hemlock, and the plant was known to be poisonous. The non-hemlock remedies also give an indication of what types of ingredients were widely available for the treatment of whooping cough, as the ingredients in domestic receipt books were often ingredients that were freely available in the garden. Non-hemlock remedies were a very important part of the treatment of whooping cough. The use of the child's age, size and constitution when preparing all types of remedies shows the importance of these themes in the care of sick children who suffered from whooping cough.

Chapter 5: The care of children with skin conditions

Skin conditions such as scald head, the itch, scrofula and erysipelas were common conditions in the eighteenth century which affected children and adults alike. Evidence of skin conditions can be found in many places, including the records of dispensaries and infirmaries, the Foundling Hospital and its branches, and the workhouses, as well as in domestic receipt books and medical treatises. Skin conditions affected various parts of the body, especially the head and scalp in cases of scald head and the itch. Although both of these conditions also affected other parts of the body, it will predominantly be the head that is examined in this chapter. Scald head is a condition that affects the scalp, and is more commonly known today as ringworm. Skin conditions such as scald head and the itch were often infectious and thrived in the unsanitary and close conditions of hospitals and workhouses, as well as in cramped living conditions in domestic settings.

The study of skin conditions is important because they were everyday conditions which affected many children. Children who had infectious conditions, such as scald head and the itch, were often barred from entering hospitals. Workhouses were often a place of last resort for medical treatment, particularly for those who had been refused treatment in infirmaries and dispensaries, although dispensaries did treat skin conditions. Although skin conditions were not often life threatening, sufferers still received treatment both within institutions and the home. Children who suffered from skin conditions were often isolated. However, the success of isolation is questionable, as often all infected patients were isolated together and frequently in the same bed.[1] Therefore, skin conditions were mostly treated at home. In addition to being everyday conditions, skin conditions were

[1] Jeremy Boulton, Ramola Davenport and Leonard Schwarz, '"These Ante-Chambers of The Grave"? Mortality, Medicine, and the Workhouse in Georgian London, 1725-1824', in *Medicine and the Workhouse*, ed. by Jonathan Reinarz and Leonard Schwarz (Woodbridge: Boydell and Brewer, 2013), pp. 58–85, (p. 75).

also viewed as evidence of sin, and the poorer classes were thought to be most likely to be affected by them. The itch and scrofula, in particular, were considered to be diseases of poverty.[2]

This chapter will begin by discussing the types of skin conditions that were prevalent in the eighteenth century. The treatises written by physicians such as Buchan, Armstrong, and Wesley will be used to determine how and why skin conditions were treated during this period. An experiment conducted between 1759 and 1762 by Robert McClellan, Foundling Hospital apothecary, will be examined in order to shed light on the diagnosis and treatment of scald head in the Infirmary of the London Foundling Hospital.[3] Evidence of scald head in the workhouses will also be analysed here. The attempts of these institutions to minimise the spread of these conditions are also examined. The chapter then moves on to consider the treatments recommended by physicians and included in various domestic receipt books, and discusses how and why non-fatal skin conditions were treated within the home.

Much of the evidence for contemporary views of scald head comes from domestic receipt books and physicians' textbooks.[4] As with diseases such as whooping cough, there was little evidence to suggest descriptions of the skin conditions were necessary in order for the patient to be diagnosed within the domestic setting. Scald head was clearly a condition that was both recognisable and well known throughout the eighteenth century. However, scald head was not the only skin condition to affect children during this period. The itch is another skin condition that was referred to frequently in medical and domestic texts, as well as in the records of the Foundling Hospital, dispensaries and workhouses. Although the itch was mentioned more widely, that does not mean it was necessarily more

[2] Siena, 'Moral Biology of the Itch', (p. 71).
[3] LMA, A/FH/A/18/009/001, Apothecary's notes (in English).
[4] Wellcome Library, MS.1321, A Book of Receits, 1725; MS.1320, Book of Phisick; MS.3500, Meade; Armstrong, *Account of the Diseases Most Incident to Children*; Buchan, *Domestic Medicine*, 7th edn; Wesley, *Primitive Physick*, 5th edn.

common than any other skin condition. The level of cleanliness and hygiene were two of the main factors that were thought to contribute to both scald head and the itch. Both these themes feature frequently in the records of the workhouses and the Foundling Hospital. As a result, some overlap between these conditions and their treatments was possible.

Skin conditions were treated despite not usually posing a threat to life. All the same, their inclusion in the London Bills of Mortality shows that a small number of people were thought to have died from such complaints. However, the numbers associated with these skin conditions were low. The reasons for treating children with skin conditions in the domestic setting were potentially different from the reasons for treatment within institutions such as the Foundling Hospital or workhouses. Some children who suffered from conditions that affected the skin were left disfigured, and in such cases treatment which aimed to prevent scarring was often administered. Children who suffered from skin conditions, or from the scarring associated with them, may have been unable to obtain an apprenticeship because employers were looking for healthy children rather than children who needed treatment. Disabled and sick children were apprenticed, but a larger sum of money was paid to the master to ensure access to apprenticeships for the less able.[5] Paying a master to take on a less able child was not in the best interests of the parish or the Foundling Hospital or workhouses. Therefore, the overall health of the child was a consideration in the treatment of skin conditions. In addition, the illness or disability of an apprentice was a reason for which they could be sent back to their native parish, at considerable cost to the parish itself.[6] Apprenticeship possibilities were second only to the desire to restrict of the spread of skin conditions among the reasons why treatment occurred at the Foundling Hospital. In the home, treatment was undertaken to ensure the comfort of the child and with their potential as a future wage earner in mind. Skin

[5] Joan Lane, *Apprenticeship in England, 1600-1914* (London: UCL Press, 1996), p. 27.
[6] Ibid., p. lxxxv.

conditions affected adults as well as children, although often adults suffered from a recurrence of a childhood condition, thus showing the importance of the prompt treatment of children who suffered from skin conditions.

Skin conditions have been discussed in scholarship on institutions such as workhouses, the Foundling Hospital, and dispensaries, and in relation to living standards, living conditions and childhood. However, skin conditions are not the primary focus of any of these studies. Butler said little about skin conditions in his thesis on the illnesses of the poor, other than giving the number and ages of some of those who visited the Dispensary in Newcastle, whilst Levene, Siena, Boulton, Davenport and Schwarz all discuss skin conditions as part of the overall medical care provided by institutions rather than as a subject in themselves.[7] The itch has attracted some scholarly attention. Siena's recent chapter on the itch provides an overview of how it was perceived during the early modern period, and explains how the itch was connected to leprosy and therefore with sin.[8] Siena argues that, although the itch was a common ailment in eighteenth-century institutions, there was considerable confusion in its diagnosis. He also advised that historians need to be careful of retrospectively diagnosing the itch as modern-day scabies.[9] Skin conditions and sin remained associated with each other in the eighteenth century. The itch was often compared to the pox, which was also linked with sin at this time.

The specific skin condition was hard to diagnose due to the lesions which appeared on the skin when someone contracted a skin condition. The lesions of the itch, scurvy, leprosy, the pox and syphilis were all similar.[10] Siena claimed that skin conditions were associated with morality because 'centuries of tradition suggested that outward

[7] Butler, 'Disease, Medicine and the Urban Poor'; Levene, *Childcare, Health and Mortality*; Boulton, Davenport and Schwarz, '"These Ante-Chambers of The Grave"?'.
[8] Siena, 'Moral Biology of "The Itch"'.
[9] Ibid., p. 71.
[10] Ibid., pp. 73–4.

appearances gave signals about inner qualities'.[11] Thus, children who showed the signs of skin diseases, whether current or past, held a low moral status which made them less likely to find apprenticeships. These perceptions made the treatment of skin conditions more pressing.

The aesthetic appearance of children was an important consideration in the treatment of skin conditions. Facial disfigurements and scarring were frowned upon, and sufferers often attempted to cover up their scars.[12] Skin conditions, particularly scald head and the itch, were thought to indicate a lack of cleanliness. As John Wesley noted, 'cleanliness was next to godliness'.[13] Therefore, cleanliness and the perception of cleanliness, were important ideas in the eighteenth century. Whilst children did not wash thoroughly in the eighteenth century, the cleaning of the face and hands was considered to be important and many domestic receipt books included cleansing and beautifying remedies in their texts. Although largely aimed at women, the beautifying process brings out some important points that can be related to children and their apprenticeship potential. A healthy body was signified by 'fairness and the appropriate shade of white'. Scars, particularly red scars from a skin condition, indicated to any prospective employer that the child was not healthy.[14] Redness in the skin, especially in the face, was also thought to result from ill humours.[15] Children with visible scars or disabilities were sometimes even paraded as street spectacles as they differed from the norm.[16]

To summarise, the treatment of skin conditions was important for two principal reasons. The first was that skin conditions could recur throughout life, and treatment as a child enhanced the prospects of healthy adulthood. Second, the child needed to appear

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[11] Ibid., p. 83.
[12] Cockayne, *Hubbub*, p. 23.
[13] John Wesley. Quoted in Brown, *Foul Bodies*, p. 150.
[14] Edith Snook, '"The Beautifying Part of Physic": Women's Cosmetic Practices in Early Modern England', *Journal of Women's History*, 20:3 (2008), 10–33, (p. 24).
[15] Ibid., p. 17.
[16] Cockayne, *Hubbub*, p. 29.

clean and wholesome both for prospective employers and for potential prospective customers.[17]

5.1: Identification of skin conditions

Medical terminology was not standardised in the eighteenth century. Clerks used a 'diagnostic terminology' when they recorded patients and their ailments at the Edinburgh Royal Infirmary, a descriptive language that was familiar to lay people.[18] Medical texts written by Buchan and Armstrong identified the symptoms of skin conditions, but conditions such as the itch and scald head were relatively self-explanatory. Domestic receipt books do not include symptoms of conditions, no doubt because caregivers could identify these conditions without guidance.

The term scald head was first used in 1529, in Thomas More's *Dialogue Heresyes II*.[19] Scald head was also the term used by Armstrong in his *Diseases Most Incident to Children* and by Wesley in his *Primitive Physick*.[20] The scald head refers to the way in which the scalp looked when infected with this condition. Scald head was spelled in several different ways including 'scal'd head' and 'scalled head', but 'scald' was the most common spelling. The terms 'ringworm' and 'tinea' were also used, but much less frequently. In 1752, an essay on the use of sea water described 'a gentleman about fifty' who 'was siez'd with scorbutic erysipelas, or rather with a kind of degenerate ringworm'.[21] A description with both scorbutic erysipelas and ringworm indicates that there was little visible difference between the two conditions. The term *tinea*, specifically

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[17] Sandra Cavallo, *Artisans of the Body in Early Modern Italy: Identities, Families and Masculinities* (Manchester: Manchester University Press, 2007), p. 39.
[18] Risse, *Hospital Life*, p. 119.
[19] 'Scald Head', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/171720> [accessed 6 February 2017].
[20] Armstrong, *Account of the Diseases Most Incident to Children*; Wesley, *Primitive Physick*, 5th edn.
[21] R. Russell tr, 'Dissertation of the use of Sea-Water' (1752), p. 145. Quoted in 'Ringworm', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/166140> [accessed 6 February 2017].

tinea capitas, referred to the scalp. The term *tinea* is Latin, and was in use as early as 1398 when Bartholomew de Glanville wrote his *De Proprietatibus Rerum*.[22] Glanville was the first to mention that *tinea* was a condition that affected children. Each of these terms will be used throughout this chapter when the historical records use specific names. When discussing this condition more generally, the term scald head will be used as it was the most commonly used term.

'The itch' was described as a condition that caused the skin to itch, and it could occur on any part of the body. The itch is now associated with the scabies mite but, as Siena pointed out, the itch was a common condition that 'may have been scabies but which is difficult to identify retrospectively'.[23] As itching occurred in many of the conditions discussed here, the itch could have been used to describe any of them. This chapter aims to examine what may have caused the 'itch' and how it was treated within the framework of eighteenth-century understandings.

T. Spooner, in 1728, described the itch as

> a filthy distemper infecting the external parts of the body universally, but more particularly the joints and between the fingers, commonly with pustulous eruptions raised upon the scarf-skin, by almost unavoidable scratching, occasioned thro' violent itching of the parts.[24]

Spooner felt that the itch he wrote about was a disease in and of itself. He did not seem to believe that it was a symptom of another disease.[25] In his text *A Compendious Treatise of the Diseases of the Skin*, Spooner discussed the deaths of three brothers, all of which were attributed to the itch. Although it was occasionally listed in the Bills of Mortality,

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[22] J. Trevisia tr. Bartholomew de Glanville, De Proprietatibus Rerum (Bodl.) (1398). Quoted in 'Tinea', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/202210> [accessed 6 February 2017].
[23] Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 23.
[24] T. Spooner, *A Short Account of the Itch, Or, A Compendious Treatise of the Diseases of the Skin, From the Slightest Itching Humour in Particular Parts Only, to the Most Inverterate Itch, Stubborn Scabbiness, and Confirmed Leprosy*, 6th edn (London: J. Roberts, 1728), p.1.
[25] Ibid., p. 2.

the itch was not usually thought to be a disease that caused death. However, Spooner recounted a tale taken from another author, which stated that:

> [He] knew three brothers, all young men, die purely of the itch, which by length of time, becoming habitual, at last corrupted the whole body, which with putrid and eating ulcers destroyed them.[26]

If the three brothers did indeed die from the itch, it was clearly a serious case. Infection may have set in after the skin had been scratched raw. However, Spooner disagreed with the idea that these brothers had died of the itch. Instead, he believed that they had actually died of 'a confirmed and universal scabbiness that succeeded an inveterate itch, [rather] than properly the itch itself, which I believe never proves mortal till it turns into a loathsome scabbiness, which indeed many times brings on death'.[27] Spooner's theory may also explain the deaths from itch listed in the Bills of Mortality.

The records of the Foundling Hospital, the workhouse of Chelsea parish, and the Bamburgh Castle Dispensary refer to the itch as a specific condition. As Siena notes, retrospective diagnosis is problematic. Therefore, all conditions listed as the itch will be discussed together in this chapter and the term 'itch' will be used in general discussion of the condition as it was widely used throughout the eighteenth century.[28]

Scrofula was a skin condition first mentioned around 1400 in Lanfranc's *Science of Cirurgie*.[29] The condition was also known throughout the eighteenth century as 'the King's Evil', or 'the evil'. Scrofula, or a scrofulous tumour, described an enlargement and degeneration of the lymphatic glands. If these tumours are left untreated they 'burst

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[26] T. Spooner, *A Compendious Treatise of the Diseases of the Skin, From the Slightest Itching Humour in Particular Parts Only, to the Most Inverterate Itch, Stubborn Scabbiness, and Confirmed Leprosy*, 4th edn (London: T. Child, 1721), p. 6.
[27] Ibid.
[28] Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 23.
[29] *Lanfranc's Science of Cirurgie*. Quoted in 'Scrofula', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/173643> [accessed 6 February 2017].

through the skin and form running sores, which leave scars when they heal'.[30] Scrofula was a condition which, as Buchan noted, predominately affected children.[31] The infirmary records from the Foundling Hospital show that patients were admitted and treated for scrofula or scrofulous swellings, whilst at the same time other children were admitted with the King's Evil or the Evil. The term 'the King's Evil' was first recorded in 1387, around the same time as scrofula. The King's Evil is the literal English translation from the medieval Latin *regius morbus*. In classical Latin, the term refers to jaundice.[32] The condition was believed to be cured by the touch of the king or queen.

Erysipelas, also known as 'St Anthony's Fire', features infrequently in eighteenth-century sources. The condition is now recognised as a streptococcal infection of the skin. The term St Anthony's Fire refers to the red rash that appeared on the patient. The term 'St Anthony's Fire' dates from 1386, appearing in Chaucer's *A Parson's Tale,* and it was mentioned by Buchan in the 1772 edition of *Domestic Medicine*.[33] St Anthony's fire, or erysipelas, is only rarely mentioned in the records examined here.

In their medical texts, physicians discussed whether they thought the skin conditions under consideration here were conditions of childhood. Many implied that these conditions were restricted to the poor and the immoral. Buchan noted, for instance, that children who exercised were unlikely to catch scrofula.[34] Buchan's comment suggests that he believed the condition was usually contracted during childhood. All the same, Buchan noted that the condition had the potential to reappear during adulthood, so the threat of infection to a healthy child from a diseased mother or nurse was also a

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[30] *The Oxford Medical Dictionary*, p. 619.
[31] Buchan, *Domestic Medicine*, 7th edn, p. 313.
[32] 'King's Evil', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/103549> [accessed 6 February 2017].
[33] 'St Anthony', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/336483> [accessed 6 February 2017]; Buchan.
[34] Buchan, *Domestic Medicine*, 7th edn, p. 313.

concern.[35] Scrofula was thought to be hereditary; parents were blamed for their habits which caused the disease to be passed on to children.[36] Buchan also emphasised the potential threat from a diseased nurse more than a diseased mother, because if the mother suffered from the condition the child was more liable to contract the itch from birth rather than from the wet nurse.[37] Buchan stressed that the itch was caused by insufficient cleanliness, and suggested that the role of 'dirty' parents should be looked at closely when children contracted the disease.[38] Regimen, diet and exercise were all very important to the treatment of skin conditions as they allowed a balance to be restored and thereby relieved the patient of the complaint. Cleanliness was also an important aspect of the prevention and treatment of the itch in the eighteenth century, particularly in institutions.

Scald head was not a condition that only affected children, although some medical texts did suggest it was specific to childhood. In the 1398 edition of Bartholomew de Glanville's *De Proprietatibus Rerum*, the Latin term for scald head, *tinea*, was described as 'yuel þatt children haue ofte'.[39] John Theobald noted in 1764 that scald head was a condition 'to which children are subject'.[40] The domestic receipt books written by Sarah Jackson and E. Smith provided medical receipts for skin conditions including scald head, the itch, scrofula and erysipelas, but they did not propose smaller doses for children than for adults. Furthermore, authors did not discuss these conditions as specifically childhood conditions. However, receipt books often assumed knowledge in the reader, and as a result were unlikely to indicate whether a disease was specific to childhood or not.

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[35] Ibid.
[36] Ibid.
[37] Ibid., p. 316.
[38] Ibid., p. 313.
[39] J. Trevesia, tr. Bartholomew de Glanville *De Proprietatibus Rerum* (1398). Quoted in 'Tinea'.
[40] John Theobald, *The young wife's guide, in the management of her children: Containing, every thing necessary to be known relative to the nursing of children* (London: Printed by W. Griffin, R. Withy, G. Kearsly, and E. Etherington, 1764).

Children suffered from skin conditions in institutions as well as at home, and the various skin conditions have been identified in the records of the Foundling Hospital, dispensaries, infirmaries and workhouses. The Foundling Hospital was an exceptional environment, as there was no other institution in England in which all of the patients were children. Scald head was frequently noted in the Foundling Hospital infirmary records, including the weekly lists of sick children at the Brill Infirmary, St Pancras, and the list of the sick treated at Ackworth.[41] The inclusion of scald head in these types of records indicates the seriousness and prevalence of the condition. Despite the tendency of the itch to affect children, it was noted by Foundling Hospital governors and inspectors that the itch was a condition that could be and was transferred from child to nurse.

The treatment of children and adults in the workhouse is more difficult to ascertain due to the paucity of surviving records from the eighteenth century. Isolation wards existed, but as children were often separated from adults in the general workhouse population it is unclear whether isolation based on disease type also occurred within the isolation wards. Hitchcock noted that up to a third of London's workhouse population were children. Therefore, their medical care needed to be addressed with regards to skin conditions, even if that care was simply merged with that provided for adults.[42] As with adults admitted into the workhouse, Levene illustrated that children were admitted with various conditions such as the itch.[43] The itch was also a cause for admission into the workhouse at Chelsea, although only for admission of children, not adults.[44] As many of the skin conditions discussed here were thought to be conditions of uncleanliness and

[41] LMA, A/FH/A/18/004/002, Weekly list of the sick at the Brill; A/FH/Q/01/13 List of boys incapable of being apprenticed and infirm children, 1771.
[42] T. Hitchcock, '"Unlawfully Begotten on Her Body": Illegitimacy and the Parish Poor in St Luke's Chelsea', in *Chronicling Poverty: The Voices and Strategies of the English Poor, 1640-1840*, ed. by T. Hitchcock, P. King, and P. Sharpe (Basingstoke: Palgrave Macmillan, 1997), pp. 70–86, (p. 76).
[43] Levene, 'Children, Childhood and the Workhouse', p. 46.
[44] Peter Higginbotham, 'Chelsea Workhouse Admissions and Discharges 1743-1799', *The Workhouse: The Story of an Institution*, 2016 <http://www.workhouses.org.uk/Chelsea/Chelsea1743.shtml> [accessed 11 September 2016].

poverty by physicians such as Buchan, it is unsurprising that they were recorded in the Foundling Hospital and workhouses.

Dispensaries and new infirmaries also recorded the itch, but in the context of attempts to prevent the condition from entering the institution rather than for purposes of ascribing treatment. Northampton General Infirmary compiled a list of illnesses that indicated which conditions it wished to excluded from the Infirmary. The itch was on this list alongside several other infectious diseases such as smallpox, fever, consumption, and those in a dying state.[45] Leeds General Infirmary produced a similar list.[46] The creation of these lists, and the connection of the itch with smallpox, whooping cough and consumption, reflects its infectious nature and indicates the seriousness with which the itch was taken. Workhouse regulations stated that inmates needed to be clean in order to be admitted, and when they were not clean they had to be made so.[47] Individuals were washed and placed in new, workhouse-provided clothing upon their admittance to the workhouse in an attempt to prevent the spread of diseases such as the itch.

The itch was the most common of the diseases that were present within the Ackworth branch of the Foundling Hospital. A total of 2,644 children suffered from the itch in the Ackworth branch in the period between 1759 and 1769, a number which represented 31 per cent of all the children who were cared for at this branch. In April 1765 alone, 280 children were admitted to the Ackworth branch infirmary with this condition. Buchan noted that the treatment of scabbed (or scald) head caused deaths at the Ackworth branch of the Foundling Hospital. In his view, the treatment of the skin eruptions pushed the bad humours back into the body and thereby caused the death of the child. Children

[45] Williams, 'Four Candles'.
[46] General Infirmary at Leeds, *Rules and Orders of the General Infirmary at Leeds* (Leeds: Printed by Griffith Wright, 1771), p. 13.
[47] *Rules and Orders for the Better Regulation of the Workhouse, Belonging to the Parish of Saint Mary, Islington, in the County of Middlesex* (London: s.n., 1798), p. 4.

at the London Foundling Hospital also suffered from the itch. In August 1761, the Hospital's Infirmary admitted 54 children. Of these, 14 had the itch.[48]

The prevalence of the itch in the Foundling Hospital had consequences for children and nurses when the children were sent out to nurse. Although the health of the nurse was checked before a child was handed over, there was still the possibility that the nurse could become ill after contracting an illness from the child. Foundling Hospital governors awarded five shillings as compensation to nurses who contracted the itch from a Foundling child.[49] The reverse transmission of disease was also a possibility, and if a child contracted the itch or any other condition from their nurse, it was noted by the governors that 'no Nurse bringing a child to this hospital which appears to have the itch or other infectious distemper shall be permitted to have a child from this hospital'.[50] The health of the nurses employed by the Foundling Hospital was important, as it prevented vulnerable children from contracting diseases and spreading them. The governors also acknowledged that the infection of a nurse by a child was possible. The Foundling Hospital did not want its children to return with infectious conditions, as this had clear implications for the Hospital itself. A child who returned from nurse with the itch, scald head or any other infectious condition could spark an epidemic that was difficult to control.

The itch was not identified in any of the records for the Dispensary at Newcastle upon Tyne. This absence indicates that, although many institutions felt that it was the type of condition that needed to be excluded, others either had no cases or were not concerned about the itch. The Dispensary at Newcastle was a non-residential institution, so the need to prevent the spread of the itch was less pressing than it was at the Foundling Hospital,

[48] LMA, A/FH/A/18/005/001, Weekly Reports of the Sick in the Infirmaries, August 1761.
[49] McClure, *Coram's Children*, p. 92.
[50] Ibid.

workhouses or infirmaries. Despite the absence of the itch in the records of the Newcastle Dispensary there were mentions of leprosy, which demonstrates that skin conditions were present at this dispensary. It is also possible that the itch was not diagnosed at Newcastle, although it was noted in the records for Bamburgh Castle Dispensary.[51] Several children who suffered from the itch were admitted to the care of the dispensary. The files for the Bamburgh Castle Dispensary do not record how the children were treated for this condition, but they do indicate the length of time the children had been ill before medical care at the dispensary had been sought. Siblings John, Mary and Jane Chisolm were admitted to the care of Bamburgh Castle Dispensary on 28 March 1778, having suffered from the itch for 14 days prior to their admission. They were listed as cured and discharged from the care of the dispensary on 4 April.[52] Whatever treatment the children received for the itch, they were cured within eight days. The dispensary was likely to have provided treatment which focused on the cleanliness of the children, their home, and linen and clothing.

Skin conditions are present in the London Bills of Mortality, although they were not listed consistently. The itch was listed in 1724, and 1728, but was absent in 1727. In the early part of the eighteenth century, the numbers who died of the itch were consistently lower than those who died of leprosy. Scald head was also present in the Bills of Mortality, but again it was not often listed as a cause of death.[53] The inclusion of skin conditions in the Bills of Mortality show that these conditions were perceived to be causes of death. Skin conditions, then, alongside limiting occupational opportunities, had the potential to have even more serious consequences for those who suffered from them.

[51] NRO, 00452/D/8/2/3, Dispensary Register of Patients.
[52] Ibid.
[53] Millar, *Collection of the Yearly Bills of Mortality*.

5.2: Experimentation with Powis Wells Water

Experimentation at the London Foundling Hospital was a relatively frequent occurrence. Robert McClellan, the Hospital apothecary, experimented with the use of Powis Wells Water to treat conditions of the head, skin and eyes. Over the course of three years, from 1759 to 1762, McClellan treated 40 children with Powis Wells Water in an attempt to treat skin conditions.[54] His experiment was the least invasive or dangerous of the trials that were undertaken at the Foundling Hospital, but the efficacy of the Powis Wells Water as a treatment for skin conditions was not clear. Whilst some of McClellan's patients recovered their health with the use of the Water, other patients did not, and some needed several courses of treatment. Scald head was the most common of the skin complaints to be found in the sources utilised here, particularly in the records of the Foundling Hospital, and McClellan's repeated attempts to restore the health of his patients makes the Powis Wells Water trials an important case study to examine. Ashley Mathisen examined the Powis Wells Water experiment, along with those that used hemlock to treat whooping cough and electricity to treat fever, lock'd jaw and 'universal rigidity'.[55] Although her examination of the Powis Wells Water trial was thorough, her work focused upon three main points within a broader framework designed to establish eighteenth-century medical practitioners as early pioneers in the field of paediatrics: the link between the medical profession and the Foundling Hospital which allowed the experiments to be undertaken; the role of the Foundling Hospital in the provision of oversight for the experiments, ensuring the safety of the children; and recognition that the experiment was fully recorded, organised and systematic.[56] The following discussion builds upon Mathisen's work by emphasising the significance of the experiment in terms of the conditions it treated and its efficacy.

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[54] Mathisen, 'Mineral Waters, Electricity, and Hemlock', p. 35.
[55] Ibid., pp. 38–9.
[56] Ibid., p. 38.

McClellan's initial experiment saw the Powis Wells Water administered to six children, and a small amount of beer to another six children. The effects of the treatment were observed and the results reported back to the General Committee of the Foundling Hospital.[57] The conclusions of this small experiment were that more observation was needed to further analyse the effects of Powis Wells Water on children who suffered from skin conditions, and that as the water was not at all harmful it could be used as a safe method of treatment.[58]

In the overall trial, McClellan treated 13 boys and 27 girls of a wide range of ages.[59] Scald head was the most common condition among the 40 patients McClellan treated.[60] Other conditions included sore eyes and head, and scrofula. Many of the children who were treated for scald head recovered well enough to leave the hospital, either to go to another branch or to be apprenticed. However, the Powis Wells Water cure was not straightforward. Many of the children with scald head had relapses, even while taking the Waters, and a cure sometimes took months or even years to be effective. Elizabeth Reed was one of McClellan's patients. She began treatment for scald head with Powis Wells Water on 26 November 1759. Initially the treatment worked, and an improvement in her condition was noted, but by November 1760 the condition had broken out afresh. By March 1761, the patient had once again improved, and by March 1762 she was found to be 'in almost a sound state'.[61] Elizabeth Reed's entry ends here as she was dismissed from the trial. The length of treatment suggests that the use of Powis Wells Water did little for this particular child.

Elizabeth Reed was not the only child whose treatment took place over a number of years. Mary Lightfoot was treated with Powis Wells Water from 14 December 1759

[57] Ibid., p. 35.
[58] Ibid., p. 36.
[59] LMA, A/FH/A/18/009/001, Apothecary's notes (in English).
[60] Ibid.
[61] Ibid., p. 13.

but, unlike Reed, Lightfoot did not recover from her condition. Initially Lightfoot's scald head deteriorated, but then it swiftly began to clear. By June 1760 she was deemed to be largely free from infection. However, by August 1760 the 'humour began to break out a fresh and continues bad in September'.[62] During October, November and December 1760, her condition improved, but it deteriorated again in January 1761. By June of that year, the scald head had begun to heal, but it had worsened by January 1762. The final sentence in Mary Lightfoot's record stated that: 'In March and April [she was] worse again'.[63] No further information was recorded for this child, so it is impossible to say whether she was cured by the Powis Wells Water trials, or whether she continued to suffer from scald head.

Although the majority of McClellan's patients suffered from scald head rather than scrofula, some patients treated by McClellan did suffer from scrofula. In contrast to Willan's guidance that they bathe in the waters, McClellan had his scrofula patients drink it, although children who suffered from other conditions did also bathe in the Powis Wells Water.[64] McClellan's first scrofula patient, a child named Richard Bennet, began to drink and wash with Powis Wells Water on 6 August 1759. By November his skin condition was cured. A swelling appeared on his neck the following May, a demonstration of how scrofula often recurred. Yet by August 1760 the swelling had dispersed, and it had disappeared entirely by September. Despite seemingly having been cured, Bennet continued to use the water until he left the Foundling Hospital as an apprentice in March 1761.

Penelope Cranford, who suffered from both scald head and a scrofulous tumour, began to drink Powis Wells Water on 1 January 1760.[65] In contrast to Elizabeth Reed, who showed signs of improvement from the beginning, Cranford was recorded as being

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[62] Ibid., p. 14.
[63] Ibid.
[64] Robert Willan, *An Essay on the King's-Evil* (London: M. Cooper, 1746), p. 37; LMA, A/FH/A/18/009/001, Apothecary's notes (in English), pp. 1, 6, 18.
[65] LMA, A/FH/A/18/009/001, Apothecary's notes (in English), p. 18.

much worse in March but had improved by May. Between June and September 1760, the tumours had not much changed, although her scald head had become worse. However, by March 1761, Cranford was still under the care of McClellan, and still suffering with inflamed tumours which had begun to discharge liquid. By June 1761, the tumours had subsided, and she was in 'a much better state of health than she had been for some time past'.[66] However, by March 1762 a further tumour had formed underneath her chin.[67] No further information is given for Cranford. Therefore, it is unclear whether she continued with the Powis Wells Water treatment, was removed from the trials, or died.

Children who suffered from 'the evil' or the 'King's evil' were also treated in McClellan's trial. Hester Yardgrove had suffered from the evil for 11 years before she was brought into the trial. She began to drink and wash with Powis Wells Water on 6 August 1759. McClellan notes that 'on the first use of it, the humours flow'd from the old outlet under her chin in large quantities, but soon stopped'.[68] By May 1760, the humours still flowed, and had begun to 'flow in great abundance towards the latter end of July' when this ended abruptly. Yardgrove's right hand swelled and became painful for a fortnight before stopping as suddenly as the flow from the humours.[69] By November 1760, Yardgrove remained cured, but by January 1761 the humour had broken out again and did not stop until April. McClellan finished his entry for Yardgrove with an observation that she continued in good health throughout September 1761. It is unclear why this case was referred to as 'the evil' rather than scrofula, but the terminology may reflect a perception of the severity of the case. The flowing of the humours from the tumour added to the complexity of Yardgrove's case.

[66] Ibid.
[67] Ibid.
[68] Ibid., p. 6.
[69] Ibid.

Some of the children in the experiment suffered from more than one skin complaint. Penelope Cranford was described as having both scald head and a scrofulous tumour. Cranford suffered from both conditions for a long period of time, and began her course of treatment in January 1760. By the end of March 1761 her scald head had cleared up, but her scrofulous tumour had not.[70] Although Cranford was treated for two different skin conditions within the same experiment, there were some other diseases, particularly infectious diseases such as smallpox and the itch, which meant that the patient had to be withdrawn from the experiment. Mary Guildford was one such case. She was included in the Powis Wells Water trials from 6 August 1759 until January 1761, when she fell ill with measles.[71] She stopped taking the Waters in order to be treated for the measles, and when she had returned to the experiment in mid-February of 1761, her scald head had worsened. Conversely, in April 1762 she appeared to be 'well'.[72] Lucy Smith had to stop taking the Waters in October 1760 due to whooping cough. She had been taking the Waters since December 1759, and her scald head deteriorated before she returned to the experiment in March 1761. Her scald head initially improved but again 'the humours broke out a fresh (sic) and the head continued bad'.[73] By April 1762, her scald head grew worse, and 'continued so'.[74] No further notes on Lucy Smith are present in the notebook, suggesting that the experiment failed to work for her as it did for many of the Foundling children. However, not all children suffered badly with scald head following McClellan's trials. Sarah Lincoln began to drink Powis Wells Water on 12 March 1760, and her condition improved. By September 1760, she 'continued well', and at the beginning of November 1760, she 'left of[f] the use of the water, and was bound apprentice'.[75] Lincoln was apprenticed despite having suffered scald head, which is noteworthy because scald

[70] Ibid., p. 18.
[71] Ibid., p. 5.
[72] Ibid.
[73] Ibid., p. 15.
[74] Ibid.
[75] Ibid., p. 20.

head was a condition that could reappear and, had it done so, her master would have had to cover the cost for Lincoln to receive medical treatment. Lincoln's experience demonstrates that some skin conditions were not necessarily a barrier to apprenticeship.

Yet scald head was still considered to be a disability by the Foundling Hospital. All physically and mentally disabled children were sent to the Ackworth branch of the Foundling Hospital.[76] As individual children were not listed with all of their ailments in the admissions book, it is not possible to state with certainty whether those children who suffered from scald head or the itch had an additional disability which was the reason they were sent to Ackworth. Not all the children who suffered from skin conditions were sent to Ackworth, so it is perhaps possible that only the most serious of cases were sent here. Indeed, the Powis Wells Water trials were undertaken in the London Hospital. Yet the fact that skin conditions were listed among the disabilities illustrates that they were viewed as a deviation from the ideal of a normal, healthy child. Ten out of a total of 118 children listed as being disabled at Ackworth suffered from scald head, which equates to 8.4 per cent of the children. Other conditions that were listed as infirmities and often prevented children from being apprenticed included: blind in one eye, or entirely blind; short sighted; short or crooked legs; deformed or missing body parts, particularly arms and hands; and epilepsy.

5.3: The treatment of skin conditions in institutions

The close quarters and often unsanitary environment of eighteenth-century London, along with the conditions within the Foundling Hospital, made it easy for infectious skin conditions to spread. Isolation was used within the London branch of the Foundling Hospital to inhibit and minimise the spread of skin conditions. It is unknown

[76] Levene, *Childcare, Health and Mortality*, p. 145; LMA, A/FH/Q/01/12, List of infirm boys and girls.

whether isolation was also practised in the branch hospitals. In May 1756, a building known as 'The Brill' was used to isolate infectious children. Within a year, a second building, known as 'Battle Bridge', was procured. At Battle Bridge, the Foundling children were inoculated for smallpox and were isolated with the itch.[77] The number of children who suffered from the itch suggested that the effectiveness of isolation was limited, particularly in the 1760s, when there is evidence that a number of severe outbreaks occurred.

Not all children in the Foundling Hospital with skin conditions were treated with Powis Wells Water in McClellan's trials. Powis Wells Water was not thought to be valuable for the treatment of the itch. The admission and discharge dates of children who suffered from the itch are recorded in a list of children with the itch, which was compiled by the Foundling Hospital administrators.[78] No information is given other than the child's name, so this book did not record the age or treatment. However, the admissions and discharge dates do provide insights into the typical length of treatment for the itch. In a sample of eighteen random names taken from the book for the years 1768-9, six children were treated for less than a month, seven were treated for approximately one month, and five were treated for over one month. This small sample shows that some individuals were treated relatively easily and cured within a week or two. Elizabeth Naylor, admitted on 25 May 1768 and discharged six days later, provides one such case.[79] Dixon Cave's treatment was not so brief. Cave was admitted for treatment on 6 December 1768 and was not discharged until 10 February 1769.[80] Another child, Thomas Crowle, was admitted on 31 July 1769 and discharged on 15 September 1769.[81] Whether the lengthy treatment was due to the fact that these were more advanced cases, or whether underlying illness

[77] McClure, *Coram's Children*, p. 206.
[78] LMA, A/FH/A/18/002/001, List of children with the itch.
[79] Ibid.
[80] Ibid.
[81] Ibid.

caused complications in the process, was not recorded. Despite contemporary assumptions that the poor were inherently predisposed to conditions such as the itch, it was not the case that all of the children in the Foundling Hospital suffered from it. Treatment for the itch was distinct from the Powis Wells Water experiment.[82] Indeed, Thomas Anbrey, who was under the care of McClellan and appeared in the Powis Wells Water experiment, had to stop his participation in the trial whilst he was treated for the itch in the Foundling Hospital Infirmary.[83] The removal of Anbrey from the Powis Wells Water experiment indicates that the mineral waters of Powis Wells were not thought to be a suitable treatment for individuals with the itch, although they were considered acceptable treatments for conditions such as scald head and scrofula. Therefore, there was a recognition within the Foundling Hospital that these skin conditions were distinguishable from one another and required different treatments.

Some institutions, such as infirmaries, admitted children with skin conditions, although the majority did not. In Manchester and Salford, adults and children were admitted, sometimes as the result of Poor Law intervention. The General Infirmary at Leeds prohibited the admission of anyone 'suspected to have the small-pox, Venereal Disease, Itch, or other Infectious Distemper'.[84] Despite the numerous conditions and infectious diseases that were banned from the Leeds Infirmary and other infirmaries around the country, exceptions were made and patients were occasionally admitted with these conditions.[85] Levene, Reinarz and Williams note that although adults were admitted to Manchester Infirmary in 1756 for treatment of skin conditions including the itch, 43 per cent of those admitted with skin conditions were children.[86] In Manchester, then, children were likely to be treated in the infirmary for infectious skin conditions. Age-

[82] LMA, A/FH/A/18/009/001, Apothecary's notes (in English).
[83] Ibid., p. 10.
[84] General Infirmary at Leeds, *Rules and Orders*, p. 13.
[85] Woodward, *To Do The Sick No Harm*, pp. 45; p. 55.
[86] Levene, Reinarz, and Williams, 'Child Patients, Hospitals and the Home', p. 27.

specific admissions were listed for the Newcastle Dispensary, which included skin conditions.[87] In Newcastle, several types of skin conditions were treated, including schrofula [scrofula] scorbutic eruptions, leprous eruptions and erysipelas. Despite their infectious nature, the terms 'itch', and 'scald head' are not present in the records of the Newcastle Dispensary. The omission of these conditions indicates either that they were not treated there or were not diagnosed. Potentially, the more severe an infection, the less likely the patient was to be treated at the dispensary.

As those with infectious diseases were often barred from entering infirmaries and dispensaries, the workhouse was often forced to admit individuals with infectious diseases including skin conditions.[88] The workhouse was a place of last resort and, as a result, those who were unable to access medical care in infirmaries were often treated within workhouses. As in the Foundling Hospital, the itch was also a common condition at St Marylebone Workhouse, where it is noted regularly in the admissions records.[89] Although only a small number of children were admitted to the St Marylebone Workhouse due to illness, the itch and scald head were among the conditions that officials at the workhouse chose to document.[90] In the admissions records of the Chelsea Workhouse, transcribed by Tim Hitchcock and made available online, only children were noted to have the itch.[91] No children were admitted with scald head or *tinea*, and individuals were admitted with 'the evil' rather than with 'scrofula'. Four individuals with 'the evil' were listed in the Chelsea workhouse admissions, one of whom was a young child aged nine; the other three were all under the age of 21.

John Mason Good, writing in 1759, believed that the reason these conditions spread in places like the workhouse was moral, rather than as a result of the sufferers'

[87] Butler, 'Disease, Medicine and the Urban Poor', p. 174.
[88] Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse'.
[89] Levene, 'Children, Childhood and the Workhouse'.
[90] Ibid., p. 46.
[91] Higginbotham, 'Chelsea Workhouse Admissions and Discharges 1743-1799'.

exclusion from other institutions.[92] Admissions records for the workhouses clearly show that children were admitted with the itch rather than contracting it inside, thus proving Good's theory wrong. Eight children who suffered from the itch were recorded as having entered Chelsea workhouse, which indicates that the methods outlined by Siena for treatment of adults with infectious conditions – that they were to be washed and their clothing fumigated before they were put in isolation – were also used for children.[93] When children in the Foundling Hospital were found to suffer from 'diseased heads', they were 'ordered to sleep in separate beds in order to prevent infection'.[94] Many of the individuals within workhouses and infirmaries shared beds, which made these places a prime location for skin conditions to spread.[95] The Governors of St Giles in the Fields and St George, Bloomsbury, ordered that all entrants had to be examined for any kind of infectious disease and if they were found to be suffering from any infectious condition they were to be put into the 'particular wards assigned for them, and not be removed, till perfectly clean'.[96] Wards were assigned for each of the infectious distempers, to ensure that those in the isolation wards were unable to be infected with another disease by anyone else on the wards.

The importance of cleanliness is noted in the workhouse with reference to infectious diseases, including skin conditions.[97] Spooner argued that the itch was so infectious a disease that merely lying in the sheets previously used by someone who suffered from the itch was enough to spread the disease.[98] The promotion of cleanliness was an important strategy to counter the itch. An outbreak of the itch in the Foundling

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[92] John Mason Good, *Dissertation on the Diseases of Prisons and Poor Houses* (London: C. Dilly, 1975), pp. 26–7, p. 33. Quoted in Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 28.
[93] Boulton, Davenport and Schwarz, '"These Ante-Chambers of the Grave?"', p. 75.
[94] Levene, *Childcare, Health and Mortality*, p. 157.
[95] Siena, 'Contagion, Exclusion, and the Unique Medical World of the Eighteenth-Century Workhouse', p. 23.
[96] Boulton, Davenport and Schwarz, '"These Ante-Chambers of the Grave?"', p. 75.
[97] Ibid.
[98] Spooner, *Short Account of the Itch*, p. 3.

Hospital inevitably led to concerns about hygiene. In his *Domestic Medicine*, Buchan noted that an outbreak of the itch in the Ackworth branch of the Foundling Hospital reflected the lack of cleanliness in these sorts of institutions,[99] and Spooner's *A Short Account of the Itch* argued that the practice of children sharing beds was almost certain to spread the disease around.[100] The first step for those in the workhouse was a wash as soon as they arrived. Wards were fumigated regularly to prevent disease from lingering, and the rooms were aired.[101] Buchan stated that the clothing worn by children when they contracted the itch needed to be either destroyed or 'fumigated with brimstone and thoroughly cleaned, otherwise they will communicate the infection anew'.[102] The steps taken by workhouse officials to promote cleanliness show the extent to which simple human contact could spread the disease.

Buchan also advocated the use of sulphur, writing that 'sulphur is both the most safe and efficacious medicine for the itch'.[103] Buchan recommended an ointment made of the flowers of sulphur with a little lemon added in to take away the 'disagreeable smell'.[104] However, before the ointment was be used, Buchan advised bleeding or a purgative. The patient was to wear more clothes than normal to avoid catching a cold, but these clothes were then to be destroyed in order to avoid recontamination. Buchan believed his procedure was an excellent method to clear the itch, but he cautioned that the remedy should be used exactly as stated, not just once or twice, to prevent a reappearance of the condition.[105]

As with scald head and scrofula, the itch was not a life-threatening condition, yet in institutions there was a clear need for skin conditions to be treated. Buchan claimed

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[99] Buchan, *Domestic Medicine*, 7th edn, p. vi.
[100] Spooner, *Short Account of the Itch*, p. 3.
[101] Boulton, Davenport and Schwarz, '"These Ante-Chambers of the Grave?"', p. 75.
[102] Buchan, *Domestic Medicine*, 7th edn, p. 317.
[103] Ibid., p. 318.
[104] Ibid., p. 316
[105] Ibid.

that if the condition was left untreated, it could lead to the development of fevers, inflammations of the viscera and other internal disorders, which would cause more illness within an institution. As a result, the itch needed to be treated in order to avoid the development of a secondary and more serious condition.[106] Two types of the itch were identified by Buchan: the kind where the skin was covered with large blotches or scabs; and another where the skin had a 'white scurf, or scaly eruption'. Buchan argued that it was the second type of the itch, called the dry itch, which was the most difficult to cure.[107] The fact that the condition was actually called the itch suggests that it was an uncomfortable condition to suffer from, particularly if heat was a factor that made it worse. The Foundling Hospital and workhouses needed to treat skin conditions to prevent a spread, but also to enable children to undertake apprenticeships.

5.4: Non-institutional treatments for skin conditions

Skin conditions were predominately treated within the home, and many domestic receipt books included remedies for the itch, scald head, erysipelas and the evil. These domestic receipt books were often written by and for women, and included tried and tested remedies. Most of the remedies in the domestic receipt books recommend the use of plants and herbs to treat skin conditions. Texts aimed at domestic audiences included an array of differing treatments for scald head. Armstrong's first recommendation for the treatment of scald head was to promote discharge. He suggested that cabbage leaves be applied both morning and night until the swelling of the glands disappeared. In addition to this remedy, the juice of the root of red sedge was to be rubbed on the scalp morning and night.[108] E. Smith, in the second edition of her text *The Compleat Housewife*,

[106] Ibid.
[107] Ibid.
[108] Armstrong, *Account of the Diseases Most Incident to Children*, p. 86.

published in 1728, instructed that the hair needed to be cut off to allow clear access to the sores on the scalp.[109] Two different remedies were noted in this edition of the text.[110] In Smith's first remedy, three spoonfuls of juice of comfry, two pennyworth of verdegraese, and half a pound of Hogs Lard were melted together and the head was anointed with the ointment.[111] The second remedy recommended a mixture of May butter 'without salt, a pint of ale, and a handful of wormwood boiled together, then left to cool. When the mixture is cold, take the dregs and use as an ointment, and apply to the area affected'.[112] By the eighteenth edition of Smith's text, published in 1773, the second remedy had been removed whilst the first remained unchanged. The longevity of the first ointment suggests that Smith had found a remedy that was effective, or at least helped to relieve the symptoms of scald head.[113] Sarah Jackson, writing in 1755, recommended taking half a pound of bears-grease, an ounce and half of quicksilver, with the juice of lemon or milk, half of ungeuentum allum, an ounce of oil of bays, an ounce of flour of Brimstone, half an ounce of camphire shaved, two spoons full of white-wine, sorrel water and plantain water, half an ounce of sandevere in fine powder. All of these ingredients were to be beaten together for a quarter of an hour and put into an earthen pot.[114] Jackson advised that the hair of the patient should be shaved off, and that the white-wine, plantain water, sorrel water and lemon juice should be mixed together and used to wash the head twice a day before it was anointed with the above ointment.

The itch was perceived to result from uncleanliness and close living quarters. William Buchan noted that the itch 'seldom prevails where due regard is paid to

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[109] E. Smith, *The Compleat Housewife: Or Accomplished Gentlewoman's Companion*, 2nd edn (London: J. Pemberton, 1728), p. 280
[110] E. Smith, *The Compleat Housewife: Or, Accomplished Gentlewoman's Companion*, 18th edn (London: J. Pemberton, 1773), p. 310.
[111] Smith, *Compleat Housewife*, 2nd edn, p. 280.
[112] Ibid., p. 310.
[113] Smith, *Compleat Housewife*, 18th edn, p. 352.
[114] Sarah Jackson, *The Director: Or, Young Woman's Best Companion*, 2nd edn (London: S. Crowder and H. Woodgate, 1755), pp. 88–9.

cleanliness, fresh air, and wholesome diet'.[115] Buchan believed that when an internal balance was not created and maintained, nature would expel the bad humours out of the body in the guise of eruptions upon the skin.[116] He cautioned against treating skin conditions by rubbing, insisting that the pores should not all be closed at once and the carer had to be sure they were dealing with a skin condition rather than some other condition which could '[make] the eruptions strike suddenly in, which Nature had thrown out to preserve the patient's life'.[117] Buchan argued that, if the humours were in balance children would not succumb to skin conditions, so both cleanliness and balance of the humours and non-naturals were essential components of treatment. Armstrong also emphasised the need for children to be clean and dry in his essay on the care of infants.[118] Buchan and Armstrong specifically mentioned air alongside diet and warmth, and these factors were important to the physicians who treated skin conditions. However, the treatment used for skin conditions could cause other medical problems to develop. An example from the Edinburgh Dispensary describes a girl of six who, after being treated for *tinea capitis*, developed a dullness in her hearing.[119] Whilst Andrew Duncan acknowledged that blindness was a well-known side-effect of treatment for *tinea capitis*, this was the first case of deafness that he had identified.[120]

Scrofula was a disease that 'may be removed by proper regimen, but seldom yields to medicine'.[121] Buchan pointed out that children and young people who led a sedentary life were more susceptible to scrofula but made no note of how it infected older individuals, if indeed it did.[122] Exercise was one of the six non-naturals that needed to be

[115] Buchan, *Domestic Medicine*, 7th edn, p. 316.
[116] Ibid., p. 430.
[117] Ibid., p. 317.
[118] Armstrong, *Essay on the Diseases Most Fatal to Infants*, p. 129.
[119] Andrew Duncan, *Medical Cases, Selected from the Records of the Public Dispensary at Edinburgh: With Remarks and Observations; Being the Substance of Case-Lectures, Delivered during the Years 1776-7*, 2nd edn (Edinburgh: Printed for C. Elliot, 1781), p. 154.
[120] Ibid.
[121] Buchan, *Domestic Medicine*, 7th edn, p. 313.
[122] Ibid.

in balance for health. The sweating that was caused by physical labour, or playing in the case of children, related to excretion and expelled excess humours and maintained health.[123] Buchan also went on to claim that those who lived in cold, damp and marshy countries were more likely to contract scrofula that those who did not.

Alongside his observations on the importance of regimen, Buchan pointed out that there was a hereditary dimension to scrofula. Robert Willan was the first of the physicians studied in this thesis to note that scrofula had a hereditary taint. In the preface to his text *An Essay on the King's Evil*, written in 1746, he noted that it was a 'calamity to families' due to its hereditary nature.[124] Buchan agreed, claiming that those who had sickly parents, and whose conditions were weakly were more susceptible to contracting scrofula, as were those who had been injured by the 'Pox or other chronic diseases'.[125] Willan suggested that children were more likely to suffer from scrofula, and other types of skin diseases, if their parents were of 'lax and weakly habit, effeminate in their way of living, eating and drinking' which 'derive to their offspring a weak and sickly machine subject to the encroachment of many diseases'.[126] However, Willan also noted that there were exceptions, and that some children may have been afflicted with scrofula without actually having contracted it through hereditary means or as a result of a lack of cleanliness or strength from their parents.[127] Buchan made no such comments in his discussions of the disease. Buchan also advised that 'external injuries' such as blows and bruises could sometimes produce scrofulous ulcers but on these occasions, there had to have been some form of predisposition to the condition. Although Buchan did not mention whether it was only children, or mostly children that suffered from scrofula, Willan stated that the time

[123] Newton, *Sick Child*, p. 44.
[124] Willan, *Essay on the King's-Evil*, p. xi.
[125] Buchan, *Domestic Medicine*, 7th edn, p. 313.
[126] Willan, *Essay on the King's-Evil*, p. 15.
[127] Ibid.

of life in which scrofula first discovered itself was in childhood.[128] From this evidence, it appears unlikely that an adult would suffer from scrofula without first having suffered as a child. The reason that children suffered from scrofula, Willan noted, was that their humours encouraged the condition to grow.[129] As he wrote: 'At the time of birth this change is yet more considerable, but the vessels are yet very lax, and their contain'd liquors are viscid and dispos'd to be pituitous; nor are they brought to a proper crisis in less than about twenty years'.[130]

In addition to the strength of the parents, the diet and sleeping arrangements of the sick child were important factors that eighteenth-century authors believed had to be controlled. In cases where the parents were healthy, strong, and clean, Willan suggested that the child had an imbalance of humours and a quick rebalancing was sufficient to cure the child. The food given to the child had to be light and dry. Fine old ale and astringent wines were to be drunk.[131] Exercise was to be taken, but the amount had to be determined by the strength and size of the patient. Willan further advised that the house must be dry and not damp, whilst Buchan warned that children should not be allowed to be continuously wet.[132] The patient's bed had to be in the upper areas of a house, and a sleep of around seven to eight hours per night was considered adequate. A child should also be well defended by the cold during the night.[133] In this regimen, many of the six non naturals were described; food and drink, exercise, sleep, and air.[134] It was likely to have been difficult to accommodate such a regimen within institutions such as the Foundling Hospital and workhouses. Furthermore, children had to be kept dry. Buchan and Willan

[128] Ibid., p. 6.
[129] Ibid.
[130] Ibid.
[131] Ibid., p.16.
[132] Willan, *Essay on the King's-Evil*, p. 17; Buchan, *Domestic Medicine*, 7th edn, p. 314.
[133] Willan, *Essay on the King's-Evil*, pp. 19–20.
[134] L. Hill Curth, 'Lessons from the Past: Preventative Medicine in Early Modern England', *Journal of Medical Ethics: Medical Humanities*, 29 (2003), 16–21 (pp. 16–17).

clearly advocated the use of humoral medicine within their treatments for scrofula. A regimen was also believed to prevent the tumours from reappearing.

Willan also suggested taking the waters, particularly those at the Spaw in Scarborough. He noted that the minerals in natural water at the Spaw and at Powis Wells had minerals that normal water did not possess, and he argued that these natural waters were able to cure conditions that had previously been considered incurable.[135] Later in the century, Buchan recommended the waters of Moffat and Harrogate as medicines for the scrofula. These waters were not to be drunk in large quantities, but were thought to keep the body open. All the same, the waters had to be drunk for a considerable period of time.[136] It was probably Willan's suggestion of the use of spa waters which prompted McClellan's trials at the London Foundling Hospital.

Inspectors of the Foundling Hospital identified scrofula or 'the evil' whilst children were out at nurse, and often requested medical help from the Hospital.[137] A Mr Thistlethwaite asked the Foundling Hospital for medical help for a George Millet, showing that there was genuine concern for the health of sick children within the Foundling Hospital and its branches. The correspondence in this case does not make it clear whether Thistlethwaite was a hospital inspector or a foster parent. Mrs Birch, the wife of a Foundling Hospital governor and an inspector of children herself, noted that a boy called James Winters had a 'very inverterate evilly disorder in his blood'.[138] According to Birch, Winters had been suffering with breakouts and hard swellings on his neck and on the joints of his arms and knees, a description which reflects the symptoms of scrofula. A local doctor had attended to this child, and no further intervention or

[135] Willan, *Essay on the King's-Evil*, pp. 33–4.
[136] Buchan, *Domestic Medicine*, 7th edn, p. 315.
[137] A/FH/A/6/1/12/18/39 Letter from J. Thistlewaite, Sunninghill, 1759. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 76.
[138] A/FH/A/6/1/13/2/27 Letter from S. Birch, Abingdon, 1760. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 85.

treatment was required from the Foundling Hospital itself. However, by June 1761, Mrs Birch again wrote to the Foundling Hospital on Winters' behalf, as he presented with 'the appearance of a white swelling on its shoulders, supposed to proceed from the evil'.[139] Winters had been examined by a surgeon, who had applied a 'plaister'. Mrs Birch asked whether the physicians at the Foundling Hospital could offer any better advice, which suggests that she was unconvinced by the treatment which Winters had received. The child was described as having ruptured the swelling due to his 'incessant crying', an indication of his discomfort. Birch sought to alleviate the suffering of the child.

Sick children were occasionally sent back to the London Hospital for treatment. Dr John Collet asked to send patient Thomas Langton back to the hospital, as both he and surgeon Mr Withers had failed to cure the scrofulous ulcer on the instep of Langton's foot.[140] The fact that Dr Collet feared the child stood to gain no benefit from remaining where he was indicates that the medical care given to children in the Foundling Hospital was perceived to be superior to the care that he and a surgeon could provide.

Children also suffered from erysipelas or St Anthony's fire. In his *Essay on the Erysipelas,* published in 1777, James Bureau discussed a work by Girolamo Fabrici d'Acquapendente, an Italian physician who had identified this condition in the sixteenth century.[141] Two differing but similar conditions fell under the general term of erysipelas as described by Buchan: 'the one, which is critical, and commonly proves a solution of a bilious fever; and the other … in consequence only of some external injury'.[142] These conditions were linked, and Bureau quoted d'Acquapendente's claim that erysipelas was caused by bile. The humours were still used to explain both the causes and, consequently,

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[139] A/FH/A/6/1/14/2/58 Letter from S. Birch, Abingdon, 1761. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors*, p. 116.
[140] A/FH/A/6/1/17/3/9 Letter from J. Collet. Quoted in Clark, *Correspondence of the Foundling Hospital Inspectors,* p. 177.
[141] James Bureau, *An Essay on the Erysipelas, or That Disorder Commonly Called St. Anthony's Fire* (London: J. Johnson, 1777).
[142] Ibid., p. 12.

the treatments of this condition in the latter part of the eighteenth century. Bureau laid out the treatment to be given to a patient who suffered from erysipelas of the face and head specifically. Bleeding from the jugular vein was the first step, as this particular condition occurred as a result of a 'heated state of the blood and bilious fever'.[143] Evacuations were then conducted, after which the patient was to be given plenty to drink. Further bleeding and evacuations were only necessary until the 'febrile heat' had subsided.[144] Bureau endorsed d'Acquapendente's belief that erysipelas was a condition that occurred throughout the summer and winter, although Buchan advised that it was most prevalent in the autumn or in cold, wet weather. The reasons given by d'Acquapendente (and reproduced by Bureau) were that in the summer the 'body abounds more with this bilious humour, and in the winter the pores being more contracted, and the perspiration lessened, so that he accounts for an accumulation that way'.[145] Overall, writers did not agree on what caused the disease or which treatments were best for it.

When children were treated for skin conditions in non-institutional settings, their treatment varied depending on who was caring for them. Foundlings who were out at nurse contracted skin conditions, and received a mixture of care from an institution as well as within the domestic setting. Although the children were not often sent back to the Foundling Hospital for treatment unless it was thought beneficial to their health, instructions were sought from and provided by the Foundling Hospital to treat skin conditions.

[143] Ibid., p. 27.
[144] Ibid., p. 29.
[145] Ibid., p. 6.

5.5: Conclusion

Skin conditions were rife throughout the eighteenth century. The records of workhouses and the Foundling Hospital provide evidence that children suffered from, and were admitted with, various types of skin conditions. Scald head, the itch, scrofula and erysipelas were all recognised to be skin conditions that primarily affected children. Many agreed that these skin conditions often recurred, meaning that it was rare, not impossible for an adult to contract one of them without having previously suffered as a child. The belief in, and respect afforded to, humoral medicine was clearly shown through the treatment and regimen of these skin conditions. The six non-naturals: air; motion and rest; sleep and waking; food and drink; excretion; passions and emotions, were all mentioned by physicians, again demonstrating the importance of regimen in eighteenth-century healthcare. In particular, the non-naturals were prominent in Buchan and Armstrong's advice, and these authors claimed that diet, air and enough sleep were critical components in the preservation and restoration of health. The passing down of bad humours from parent – or nurse – to child was also something noted by Buchan, supplementing the debate regarding purity versus impurity in the health of children. Finally, cleanliness of parents, nurses and children were important aspects of the maintenance and restoration of health.

The importance of cleanliness and aesthetics within the treatment of skin conditions is a critical issue that has been raised in this chapter. Siena's argument, that skin conditions such as the itch were linked to leprosy and sin, provides only one of the reasons why children who had suffered from skin conditions were difficult to apprentice. Other factors included the potential recurrence of the disease and the scarring left on the skin. As the cases of Richard Bennet and Sarah Lincoln demonstrate, children who were treated for skin conditions at the Foundling Hospital could find apprenticeships and leave the care of the hospital.

This chapter has demonstrated that the treatment of skin conditions was not standardised. For some skin conditions there was no agreement on the causes of the condition, never mind on the treatment that should be used. Watson's use of the Powis Wells Water suggested that natural mineral water was a useful treatment for some children but other diseases prevented certain children from remaining part of the trials. For those who did propose treatments, it was the size and constitution of the child that were the important factors to be considered rather than their age or sex.

This chapter clearly demonstrates that skin conditions were treated in the eighteenth century. Some skin conditions were even the subjects to medical experimentation in the way that more serious diseases such as smallpox and whooping cough were. The use of children in the Foundling Hospital for these experiments indicates a genuine desire to treat these children, perhaps as a way of minimising the spread of skin conditions. Yet, as Ashley Mathisen argued, a by-product of these experiments was that they provided a forerunner to paediatric medicine.

Chapter 6: The care of children with rickets and scurvy

This chapter examines rickets and scurvy, and evaluates how children who suffered from these conditions were treated in the eighteenth century. Rickets and scurvy are two conditions that we now know today are caused by nutritional deficiencies, although during the eighteenth century, they were not identified as such. Whilst different diseases, associations were made between rickets and scurvy during the eighteenth century. Some physicians believed that if a child suffered from one condition, they were also likely to suffer from the other.[1] This chapter examines these two conditions together, therefore, both because they are deficiency conditions, and because of the connections made between them in the eighteenth century.

Rickets is a condition that develops from a lack of vitamin D, which leads to a lack of bone mineralization, which causes bones to become soft throughout their developmental stages.[2] When the bones of growing children fail to mineralise properly and are soft, the weight-bearing bones, particularly the long bones of the leg, bow as the child grows and walks.[3] The weight of a child on soft bones leads to a 'bowing' of the leg bones and the deformation of the chest cavity. Texts written by William Cadogan, George Armstrong, William Buchan and John Wesley mainly suggested regimens of diet, exercise, and strengthening to treat rickets. Strengthening whilst young was thought to reduce the effects on the long bones, which became 'bowed' as weight was placed upon them. Scurvy, in contrast, is the result of a lack of vitamin C, and was a condition that largely affected sailors. In the eighteenth century, navy physicians conducted experiments

[1] Valerie A. Fields, '"The English Disease": Infantile Rickets and Scurvy in Pre-Industrial England', in *Child Care Through The Centuries*, ed. by John Cule and Terry Turner (Cardiff: STS Publishing for the British Society for the History of Medicine, 1986), pp. 121–35, (p. 123).
[2] V. Giuffra et al, 'Rickets in a High Social Class of Renaissance Italy: The Medici Children', *International Journal of Osteoarchaeology*, 25:5 (2015), 608–24.
[3] Simon Mays, Megan Brickley and Rachel Ives, 'Growth and Vitamin D Deficiency in a Population from 19th Century Birmingham, England', *International Journal of Osteoarchaeology*, 19:3 (2009), 406–15, (p. 406).

to try to address the problems it caused. On land, scurvy was not as prominent as at sea, due to the more reliable supply of fresh fruit and vegetables. Yet the diet of many lower class people was restricted due to the affordability of food, so children could and did develop scurvy. Children were treated for rickets and scurvy in a variety of settings, including within the home, in the Foundling Hospital and workhouses, as well as in infirmaries, and often the treatment differed depending upon the setting. Remedies suggested by the authors of domestic receipt books and by Wesley frequently included the same ingredients as those suggested by Buchan and Armstrong. However, the mixture of these ingredients differed between the two groups.

The archaeological evidence demonstrates that rickets was found in medieval, post-medieval and ancient skeletal populations, and its development was often associated with the age of weaning.[4] Evidence of bowed bones and the effects of healed rickets can be found in adult skeletons, showing that adults still suffered from deformities caused as a child by rickets. Yet there is little mention of rickets in the historical literature before the seventeenth century, despite the likelihood that the condition occurred relatively regularly.[5] The impact of industrialisation on the incidence of rickets was not discussed by contemporaries, despite the major economic and urban changes which took place during the eighteenth century. Rickets was not written about in the eighteenth century to the same degree as other diseases studied in this thesis. Many physicians, such as Buchan and Armstrong, observed that rickets and scurvy affected children, but very few medical

[4] Mary Elizabeth Lewis, 'The Impact of Urbanisation and Industrialisation in Medieval and Post-Medieval Britain: An Assessment of the Morbidity and Mortality of Non-Adult Skeletons from the Cemeteries of Two Urban and Two Rural Sites in England (AD 850-1859)' (unpublished doctoral thesis, University of Bradford, 1999), p. 82; Mary E. Lewis, *The Bioarchaeology of Children: Perspectives from Biological and Forensic Archaeology* (Cambridge: Cambridge University Press, 2007), p. 97.

[5] Marta Krenz-Niedbala, 'Did Children in Medieval and Post-Medieval Poland Suffer from Scurvy? Examination of the Skeletal Evidence', *International Journal of Osteoarchaeology*, 26:4 (2016), 633–47; J.C. Drummond and Anne Wilbraham, *The Englishman's Food: A History of Five Centuries of English Diet* (London: Jonathan Cape, 1939), p. 271.

treatises were written that focused exclusively on rickets. The recognition of rickets as a significant disease of childhood came much later in the nineteenth century.

6.1: Identification and diagnosis of rickets and scurvy

The first known use of the term 'rickets' dates from 1634 and the Parish Clerks' Company Bill of Mortality.[6] Clearly the condition was well known and diagnosable at this point. It is perhaps worth noting that rickets was recognised as a disease that caused death before it came to be discussed in medical treatises. Rickets was mentioned in various medical tracts throughout the seventeenth century, both in English and Latin. Many of the eighteenth-century physicians who discussed rickets suggested the disease did not have a long history. In 1651, Francis Glisson claimed that rickets was a new disease, which had only recently been identified.[7] In a tract on rickets published in 1685, John Mayow argued that the only other physician he knew of who had written anything about it was Glisson. Mayow believed that rickets 'had its first rise in the Western parts of England, above 40 years ago', a time frame which corresponds broadly with early reference to rickets in the Bills of Mortality.[8] Mayow also argued it was strange that the disease had not been written about because he claimed that 'a disease, for the most part doth scarcely spread so much as the ill habit of writing concerning it'.[9] When writing in 1697, John Peachey claimed that rickets was a disease that had only been identified sixty

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[6] *Parish Clerks' Company Bill of Mortality*, Guildhall Library St 424.9. Cited in 'Rickets', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/165593> [accessed 6 February 2017].

[7] Francis Glisson, George Bate, and Assuerus Regemorter, *A Treatise of the Rickets: Being a Disease Common to Children. Wherin (among Many Other Things) Is Shewed, 1. The Essence 2. The Causes 3. The Signs 4. The Remedies of the Disease. Published in Latin by Francis Glisson, George Bate, and Ahasuerus Regemorter; Doctors In Physick, and Fellows of the College of Physicians at London. Translated into English by Phil. Armin* (London: Printed by Peter Cole, 1651), p. 1.

[8] John Mayow, *Rhachitidologia, Or, A Tract of the Disease Rhachitis, Commonly Called the Rickets: Shewing the Signes, Cause, Symptoms, and Prognosticks: Together with a Most Accurate and Ingenious Method of Cure* (Oxford: Printed by L.L. for Th. Fickus, 1685), pp. 3–4.

[9] Ibid., p. 2.

years previously, further supporting the emergence of awareness of the disease in the 1630s and 1640s.[10]

In 1773, similarly, rickets was noted by William Farrer to have been 'a new species of disorder, for it only made its first appearance in England about the middle of the seventeenth century'.[11] The condition was discussed in a number of other eighteenth-century texts. J. Quincy, for example, included a specific treatment for rickets in his *Pharmacopoeia*.[12] John Wesley, George Armstrong and William Buchan discussed rickets and the various treatments that were available for it.[13] The term rickets was also present in domestic receipt books, such the Anonymous 'A Book of Phisick' and Mrs Meade's text, illustrating that the disease was known about and treated in both the domestic and professional spheres.[14] The use of the term 'crooked legs' in the Foundling Hospital records, may have referred to rickets. Whilst the term rickets was used to describe the deformities of some of the children in the Foundling Hospital and used as a cause of death in some cases, some children were described instead as having crooked legs.[15] No ages were recorded against the names and illnesses of children, so it is difficult to determine whether 'crooked legs' implied active cases of rickets, or healed cases of an older child. The different terms for rickets may have resulted from variations in recording practices. The records of the Foundling Hospital were written by different individuals, and the institution had branches in different areas of the country. Therefore, what one

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[10] John Peachey, *A General Treatise of the Diseases of Infants and Children. Collected from the Best Practical Authors* (London: R. Wellington, 1697), p. 148.
[11] W. Farrer, *A Particular Account of the Rickets in Children; and Remarks on Its Analogy to the King's Evil: With General Directions How to Cure Such Diseased Infants in an Easy, and Efficacious Manner* (London: J. Johnson, 1773), p. 2.
[12] J. Quincy, *Pharmacopoeia Officinalis*, 102 (1718). Cited in 'Rickets'.
[13] John Wesley, *Primitive Physick: Or an Easy and Natural Method for Curing Most Diseases*, 1st edn (Holborn: Thomas Trye, 1747); Armstrong, *An Account of the Diseases Most Incident to Children*; William Buchan, *Domestic Medicine Or, a Treatise on the Prevention and Cure of Diseases by Regimen and Simple Medicines*, 2nd edn (London: Printed for W. Strahan; T. Cadell; and A. Kincaid & W. Creech, and J. Balfour, 1772).
[14] Wellcome Library, MS.3500, Meade; MS.1320, Book of Phisick.
[15] LMA, A/FH/D/1/4/3, Diseases that caused death, January 1756-September 1759; A/FH/Q/70, Monthly Sickness, January-December 1760.

administrator could identify as rickets, another could identify as crooked legs. Rickets was noted more often in the country branches than it was in the London infirmary. A higher prevalence of rickets might have been expected in the London Hospital rather than in the country branches, as children in the country may have been exposed to more sunlight than those children in the London Hospital.[16]

A few physicians conducted autopsies on those who had suffered from conditions such as rickets. Glisson's views and theories regarding the disease were cultivated during his autopsies. Glisson cautioned his reader that 'the dead bodies which we opened were most vehemently afflicted with this disease whilst they were animated, for they are supposed for the most part to have yielded to the very magnitude of the disease'. He reassured readers that those living with the disease were not suffering to the same extent as those who had died.[17] The effects that Glisson saw in the autopsied bodies were different to the effects that physicians saw in the living. Glisson urged those performing autopsies on individuals who had succumbed to rickets not to make rash decisions regarding the changes seen in the bodies. He argued that:

> anatomists through inadvertency, and want of due regard to this caution, have foully erred in their observations, whilst they ascribe those things which concern another disease, to another wherewith it was complicated before the dissolution. The best prevention therefore or rectification of this error is, Not to make a rash judgement from the inspection of one or two bodies, but first by a reiterated and sedulous experiment, to be able to distinguish what things perpetually occur, what for the most part, what frequently and what seldom.[18]

Here, Glisson warned physicians against opening up bodies and ascribing symptoms and effects of other diseases to rickets, thus further complicating the identification, treatment and the disease in general. Glisson urged physicians to take a more methodological

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[16] Warren Harvey has used a text on fevers written by William Fordyce to argue for a connection between rickets and hectic fever, because Fordyce linked hectic fever with 'crooked legs'. However, there is no further evidence to support this point.
[17] Glisson, *Treatise of the Rickets*, p. 9.
[18] Ibid., pp. 9–10.

approach to the identification and treatment of rickets through the use of dead bodies in order to treat the living.

Rickets was not thought to be infectious. Mayow claimed that children were most at risk of developing rickets in the first two years of their life. He argued that 'they [the sufferers] are infants who chiefly are sick of this disease: and they are more frequently vexed therewith from the sixth month after the birth to the eighteenth [month], and from a year and a half to the end of two years'.[19] Peachey argued that the rickets 'siezes a child when they are half a year old', whilst Buchan identified children aged between nine months and two years as the main group at risk of rickets.[20] Scottish physician William Cullen agreed with these age ranges, stating that rickets rarely developed before the age of nine months or after the age of two years.[21] Mayow was the only one of these physicians to suggest that the youngest age at which an infant could be struck with the condition was six months. Mayow did not state whether he had personally seen the rickets in a child of six months, or whether he estimated this to be the youngest age possible. George Armstrong argued that rickets was a condition of childhood, while noting that it had effects, such as deformed legs and problems during pregnancy, which affected sufferers in later life.[22] Buchan, in contrast, did not focus on long-term deformities and argued that the bones needed to be strengthened in children in order for rickets to be treated and potentially cured. Rickets was a disease that struck in childhood and led to life-long problems, but it did not cause many deaths during the eighteenth century.

Writing in the seventeenth century, Glisson, Mayow and Peachey all noted that children with rickets tended to have a large head. Glisson examined children with rickets

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[19] Mayow, *Rhachitidologia*, p. 4.
[20] Peachey, *General Treatise of the Diseases of Infants and Children*, p. 148; Buchan, *Domestic Medicine*, 7th edn, p. 436.
[21] William Cullen, *First Lines of the Practice of Physic*, 4 vols (Edinburgh: Printed for Bell & Bradfute, and William Creech, 1791), IV, p. 333.
[22] Armstrong, *Account of the Diseases Most Incident to Children*, p. 119.

when they were alive and autopsied a number of children who had died of the disease.[23] In addition, Glisson also argued that the 'external members, and the muscles of the whole body were slender and extenuated', and compared the body with those who suffered from consumption.[24] Glisson further noted swellings of the joints, particularly the wrists and ankles, and the 'outward lean' of the breast bone.[25] In 1685, Mayow also wrote that increased size of the child's head was a sign that rickets was present. He argued that the head could be so large, that it could hardly be supported by the weak necks of children.[26] Similarly, Peachey noted the extreme size of the head, along with loose skin, bowed bones and knotted joints.[27] Peachey also argued that children who suffered from rickets possessed a sharp with, a point repeated by later physicians, such as Armstrong and Buchan.[28] In 1710, the anonymous author of 'A Book of Phisick' noted that rickets 'is known by the head growing larger, then the joints of the writs growing and the knees bending, a dullness and heaviness that affects the child'.[29] Therefore, there was a broad consensus on the symptoms of rickets.

William Farrer, M.D., writing in 1773, listed nine symptoms of rickets that affected children who could not yet walk, and three symptoms of rickets for children who could walk. For children who could not walk, Farrer noted the age of the child as the most likely indication of whether the child may have contracted rickets. Second, if older siblings had suffered from rickets, younger children within the family were also likely to contract the condition.[30] A flaccid swelling of the head and face, along with a 'lax state of the skin', and a swelling of the abdomen were further symptoms which could suggest

[23] Glisson, *Treatise of the Rickets*, p. 10.
[24] Ibid., p. 11.
[25] Ibid., pp. 11–12.
[26] Mayow, *Rhachitidologia*, p. 7.
[27] Peachey, *General Treatise of the Diseases of Infants and Children*, p. 148.
[28] Ibid.
[29] Wellcome Library, MS.1320, Book of Phisick, p. 92.
[30] Farrer, *Particular Account of the Rickets in Children*, p. 8.

rickets.[31] The bowing of the legs was further, and perhaps the most obvious, proof that rickets was present in a child. For children who were able to walk at the onset of rickets, there were fewer symptoms, Farrer referred his readers to the 'signs already enumerated'.[32] Further signs included walking slowly or 'an infirm manner of walking', and the 'preternatural ripeness, and force of the genius; the genuine exercise of the senses, the appetite and the digestion remaining almost sound and uninjured. When the child is able to walk before he can make use of his legs, he is generally supposed to have the rickets'.[33] The final part of this statement is a contradiction, but it may have indicated that children who could walk, but whose legs were infirm, were thought to have rickets. Farrer also commented on the size of the head, stating that 'the patient's head is preternaturally large, and its sutures gaping'.[34]

In 1781, the seventh edition of Buchan's *Domestic Medicine* also noted symptoms of rickets, including the softening of the child's flesh, and the diminishing of strength. Buchan advised that he child would lose its cheerfulness, and look 'more grave and composed than is natural for its age, and does not chuse to move'.[35] Buchan also argued that the bones were not affected during the early stages of the disease. The softer bones were the first of the bones to be affected, initially the ankles and wrists, with the spine becoming bent; the breastbone would then develop a deformity and the bones and the arms would finally grow 'crooked'. This perspective echoed the views of earlier physicians.[36] Buchan claimed that children who suffered from rickets had 'great acuteness of mind, and an understanding above their years'.[37] Whether an enlarged head was due to

[31] Ibid.
[32] Ibid.
[33] Ibid., pp. 9–10.
[34] Ibid., p. 10.
[35] Buchan, *Domestic Medicine*, 7th edn, p. 437.
[36] Ibid.
[37] Ibid.

being in the company of adults rather than other children or the 'preternatural enlargement of the brain, [was] not material'.[38]

Whilst Buchan, Farrer, and authors of domestic receipt books noted the deformities that afflicted children who suffered from rickets, Armstrong, writing in 1777, noted that the bones buckled because they were weakened, and acknowledged the need for the bones and the body in general to be strengthened. Armstrong failed to note any deformities of the bones.[39] Whether Armstrong simply missed this fact, or felt it was common knowledge, is unclear. However, his belief in the need to strengthen rickety children was clear, and suggested that he understood and was aware of weakness of the bones, particularly of the limbs.

When writing in 1793, Michael Underwood also acknowledged that the head of a child with rickets increased in size, as did the joints and belly. The wrists and ankles were again noted as being two of the most prominent sites at which rickets sat in the body.[40] The 'back and breast bone' were also identified by Underwood as areas in which the rickets sat, although Underwood was alone in claiming the spine as an area affected by this condition. Underwood also linked rickets with teething problems, and contended that teething was often suspended when a child suffered from rickets, or that when teeth did emerge, they were quick to rot and fall out. The link Underwood made between rickets and teeth gives a potential link between rickets and scurvy in childhood. However, it is more likely to have been rickets affecting the teething process rather than a link between the two diseases.[41] Overall, there was a general agreement on the symptoms of rickets from Mayow and Glisson in the late seventeenth century, to Armstrong, Buchan and Farrer writing in the later part of the eighteenth century.

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[38] Ibid.
[39] Armstrong, *Account of the Diseases Most Incident to Children*, p. 121.
[40] Underwood, *Treatise on the Diseases of Children*, p. 201.
[41] Ibid., p. 202.

Admitted	Cured	Dead	Incurable	Irregular	Remained on books
21	14	2	2	2	1

Table 6.1 Number of patients in the Newcastle Dispensary admitted and treated for rickets, 1777-1789[42]

Rickets was not named in the records of the Ackworth branch of the Foundling Hospital. As physically and mentally disabled children were cared for at Ackworth, its absence might suggest that rickets was not seen as a physical disability. However, eight cases of deformed and one case of crooked legs are present in the Ackworth records, which may well have been severe cases of unhealed rickets.[43] Rickets was not a condition that was noted in the Chelsea workhouse admissions and discharge registers, nor were crooked or deformed mentioned in these records. Yet the absence of references does not mean that rickets was absent from the workhouse. As a lack of sunlight played a key role in the development of rickets, individuals, particularly children who were small infants when admitted or who were born in the workhouse to parents who received indoor relief in the workhouse, may have been susceptible to the condition. However, if rickets developed and was treated whilst the patent was inside the workhouse, it would not merit inclusion in the admissions and discharge registers. One adult inmate of the workhouse, a female, Elizabeth Billington, aged 31, was sent from Chelsea workhouse to St George's to get treatment for her legs. She was listed as having been 'lame', and may have experienced the after-effects of rickets long after the condition had been cured.[44]

Rickets was a common condition among patients at the Newcastle Dispensary. Table 6.1 shows the number of individuals admitted with rickets, out of a total number of 1,720 patients, as well as the numbers who left the Dispensary treatment programme

[42] TWA, HO.ND, Dispensary Annual Reports, 1777-1872.
[43] LMA, A/FH/Q/01/13, List of boys incapable of being apprenticed and infirm children, 1771.
[44] Higginbotham, 'Chelsea Workhouse Admissions and Discharges 1743-1799'.

cured, dead, incurable, irregular, one individual remained on the books. The terms cured, incurable and irregular are the terms that were used in the original source. 'Cured' may have meant that the treatment provided allowed the patient to recover from the condition. Hannah Newton has argued that the term 'recovery' involved the 'translation of the disease into health'.[45] The term 'irregular' is unclear, but may have referred to the irregular attendance of the patient at the Dispensary. Side effects of rickets would have been likely. However, no side effects were noted. Sixty seven per cent of the patients at the Newcastle Dispensary who suffered from rickets were cured of the condition. Although the treatment given to the patients with rickets at the Newcastle Dispensary was not recorded, it was successful enough for the majority of patients to effect a transition back to health. However, effects of rickets into later life were still possible.

Scurvy was not a condition that is specific to childhood, although Elizabeth Lomax has argued that infantile scurvy was present in the past but mistaken by contemporary physicians as being problems associated with teething.[46] One of the main symptoms of scurvy was bleeding and painful gums, which would suggest teething pain rather than scurvy in children at the age of teething. Anaemia, irritability and pain, particularly in the joints, are common symptoms of scurvy in children, whilst in adults; the symptoms include weakness in and muscle pain, along with periodontal disease.[47] Due to the 'demands of growth', the symptoms of scurvy presented more rapidly in children than in adults.[48]

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[45] Galen's Method of Physic. trans. Peter English (Edinburgh: 1656). Quoted in Hannah Newton, '"Nature Concocts & Expels": The Agents and Processes of Recovery from Disease in Early Modern England', *Social History of Medicine* 28:3 (2015), 465–86, (p. 467).

[46] Elizabeth Lomax, 'Difficulties in Diagnosing Infantile Scurvy before 1878', *Medical History*, 30 (1986), 70–80, (p. 70).

[47] Charlotte Roberts and Keith Manchester, *The Archaeology of Disease*, 3rd edn (Stroud: Sutton Publishing, 2005), p. 235.

[48] Megan Brickley and Rachel Ives, 'Skeletal Manifestations of Infantile Scurvy', *American Journal of Physical Anthropology*, 129:2 (2006), 163–72, (p. 163).

Armstrong did not mention scurvy in either of his texts, which is not surprising given that it did not affect children exclusively, nor did it appear in his records of the Dispensary of the Infant Poor.[49] Buchan noted that one of the main symptoms of scurvy was the 'rottenness of the gums, which are apt to bleed on the slightest touch; a stinking breath; frequent bleeding at the nose' crackling of the joints and difficulty walking'.[50] Buchan's description of scurvy differentiated it from teething, as his description of teething was clearly very different: 'children … slaver much, and have generally a looseness. When the teething is difficult … the child has startings in his sleep, tumours of the gums, watchings, gripes, green stools, the thrush, fever, difficult breathing, and convulsions'.[51] Although the 'tumours of the gums' could be seen in both teething and scurvy, the other symptoms bear little resemblance to each other. Therefore, it is unlikely that scurvy was mistaken for teething. Wesley too noted the rottenness of the gums as a symptom of scurvy, along with heaviness of body, weariness, and 'yellow, lead or violet colour'd spots on the legs'.[52] These coloured spots mentioned by Wesley were not mentioned by Buchan.

Scurvy was also present in the children of the Foundling Hospital, although it was less common than rickets. The number of instances of both conditions was relatively low in comparison to references to whooping cough, smallpox, and fevers. In the monthly sickness records of Ackworth for 1763, one child was listed as having a 'scorbutic constitution'.[53] This phrase indicates that this particular child had likely suffered from scurvy in the past and was therefore thought to be susceptible to contracting the condition again. In June 1769, a different child was diagnosed with leprosy. This identification was one of only a handful of references to leprosy in the eighteenth-century records examined

[49] Armstrong, *Account of the Diseases Most Incident to Children*.
[50] Buchan, *Domestic Medicine*, 7th edn, p. 309.
[51] Ibid., p. 434.
[52] Wesley, *Primitive Physick*, 5th edn, p. 95.
[53] LMA, A/FH/Q/70, Monthly Sickness, January-December 1763.

for the purpose of this research. In the second half of the eighteenth century, 89 patients were admitted to the Newcastle Dispensary with 'scorbutic and leprous eruptions'; however, those who presented with these types of skin eruptions were identified as either suffering from scurvy or leprosy with no clear distinction made between the two.[54] It is unclear how easy it was to distinguish between the conditions of leprosy and scurvy during this period. The term leprous often referred to the manifestation of a condition, rather than to the disease of leprosy itself.[55]

As scurvy was still thought to be a condition that affected sailors, land scurvy may have been easier to diagnose as leprosy, as leprosy would have been the more obvious diagnosis for a skin condition. However, the large numbers who suffered from 'scorbutic and leprous eruptions' is noteworthy, as there were a large number of individuals recorded with this condition between 1777 and 1788 but little mention of the term before or after these dates. The Newcastle Dispensary faced the same administrative issues as infirmaries, Foundling Hospital, workhouses and other dispensaries, in that there would have been an element of practitioner perception. The list of illnesses may have been compiled by several different hands, and what was described as 'scorbutic and leprous eruptions' by one administrator or physician, would have been described as something else by another. Therefore 'scorbutic and leprous eruptions' could represent an individual interpretation of skin lesions.

Of the 89 patients with scurvy who were treated in the Newcastle Dispensary, 84 were cured. One was noted to be 'irregular', and four were left on the books.[56] None of the patients who suffered from scurvy died, which indicates that the treatment provided returned them to health sufficiently enough to have them classed as cured. However, we

[54] TWA, HO.ND, Dispensary Annual Reports.
[55] 'Leprous', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/107417> [accessed 6 February 2017].
[56] TWA, HO.ND, Dispensary Annual Reports.

do not know how many of these patients were children because no ages were recorded in the Newcastle Dispensary records. No children were admitted to, or left, the Chelsea workhouse with scurvy, but one adult was admitted with the condition.[57]

The small number of scurvy cases in the Foundling Hospital and associated branches is striking. It was clearly a condition that required patients to seek medical help, as shown by the Newcastle Dispensary, and references to it in the Poor Law requests for assistance.[58] Reports from inspectors caring for children in the country out at nurse, along with other correspondence related to the care of the Foundling Hospital children did not mention scurvy as a condition with which the children struggled. The small number of scurvy cases may have been because most children had an adequate diet and obtained sufficient nutrients from fruit or vegetables.[59] Potatoes were a good source of vitamin C, and relatively cheap and accessible for the poor during the eighteenth century. The introduction of the potato into English diets in the seventeenth century may have caused a decline in scurvy.[60] This hypothesis is strengthened by the marked increase in cases in scurvy in the nineteenth century following the potato famine.[61]

6.2: Theories about the causes and prevention of rickets and scurvy

Industrialisation had a major impact on England, especially towards the end of the eighteenth century. Industrialisation may have had an impact on the diet of many children, as well as on the extent of their exposure to sunlight. At the beginning of the period this thesis examines, rickets and scurvy were both known but uncommon conditions. Rickets was not caused specifically by industrialisation, and Michael Underwood was unusual in

[57] Higginbotham, 'Chelsea Workhouse Admissions and Discharges 1743-1799'.
[58] Steven King and Gillian Gear, *A Caring County? Social Welfare in Hertfordshire from 1600* (Hatfield: University of Hertfordshire Press, 2013).
[59] Drummond and Wilbraham, *Englishman's Food*, p. 259.
[60] Charlotte Roberts and Margaret Cox, *Health and Disease in Britain: From Prehistory to the Present Day* (Stroud: Sutton Publishing, 2003), p. 306.
[61] Ibid.

observing a correlation. Instead, eighteenth-century physicians held a range of views on rickets and scurvy, as this section will discuss.

Theories about the causes of rickets and scurvy largely focused on the topics of parents, diet, teething, and social status. For rickets, specifically, a number of texts discussed fever and binding of the limbs. Mayow did not attribute rickets to a poor diet, diseased parents, or a fever. Instead, he suggested that 'the rhachitis is a disease, arising from the unequal distribution of the nervous liquor through the defect or superabundance whereof some parts defrauded of nutriment are attenuated, other parts being over-cloyed [therewith] grown too bulky'.[62] In contrast, later physicians such as Buchan and Armstrong did blame rickets on a poor diet, diseased parents and fever.

Most eighteenth-century practitioners agreed that diseased or bad parents were one of the main causes of rickets. Buchan included rickets in his assertion about the responsibilities of parents for the illnesses of their children. Buchan believed that mothers, in particular, who had a 'relaxed habit, who neglected exercise, and live upon a weak, watery diet, can neither be expected to bring forth strong and healthy children, or to be able to nurse them, after they are brought forth'[63] Fathers 'in the decline of life, who are subject to the gout, the gravel, or other chronic diseases, or who have been often affected with the venereal disease in their youth', were also likely to cause rickets to develop in their offspring.[64]

W. Farrer also mentioned parenting in his *A Particular Account of Rickets in Children*, first published in 1773.[65] Farrer placed responsibility for childhood health squarely with the parents, claiming that:

> The great number of ricketty children owing to the unskilfullness of young mothers, as well as ordinary nurses, seen almost, in every part of their conduct,

[62] Mayow, *Rhachitidologia*, p. 14.
[63] Buchan, *Domestic Medicine*, 7th edn, p. 436.
[64] Ibid.
[65] Farrer, *A Particular Account of the Rickets in Children*, p. vi.

> and, the commitment of such diseased infants, to the sole care of nurses, exclusive of the medical art, makes but a melancholy, I had almost said a tragical scene, at best.[66]

Farrer claimed that, whilst no child was born with the rickets, the condition 'may proceed originally from the disorders of the parents, and may be increased by those of the nurse'.[67] Farrer went on to specific the relevant maladies of the parents such as chronic diseases, old age, and venereal conditions. A sick or elderly nurse could exacerbate the situation.[68] Those outside of the medical profession observed that bad nurses, rather than bad parents, could have a negative impact upon the health of a child, and cause rickets to develop. In the seventeenth century, the daughter of Alice Thornton, a gentlewoman of Yorkshire, had blamed her daughter's death from rickets on 'ill-milke at two nurses'.[69] Rickets was thought to be contractible from an infected nurse, either transmitted by her milk, or from exposure to her person.[70] However, the practice of weaning was also noted as being a potential cause of rickets, particularly amongst those who were sent out to nurse, rather than those who remained in their parental homes.[71]

As rickets was most prevalent in children of the upper classes who typically sent their infants to nurse, Fields has argued that the main reason the development of rickets was blamed on the nurses was because the child left home perfectly healthy, but by the time the child was ready to be returned, rickets was clearly visible.[72] Thus, the eighteenth-century belief was that the nurse had done something to cause rickets in the child. We know today that multiple pregnancies would lead to a lack of vitamin D in mothers, and

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[66] Ibid., p. viii.
[67] Ibid., p. 3.
[68] Ibid., pp. 3-4.
[69] Alice Thornton, *The Autobiography of Mrs Alice Thornton of East Newton, County York*. Quoted in Fields, '"English Disease"', p. 125.
[70] Fields, '"English Disease"', p. 125.
[71] Ibid., p. 125.
[72] Fields, '"The English Disease"', p. 126; Giuffra et al, 'Rickets in a High Social Class of Renaissance Italy': The Medici Children', pp. 620-1; Farrer, *Particular Account of the Rickets in Children*, p. 6.

therefore to a lack of vitamin D in their children.[73] In families with fewer children, the mother's level of vitamin D was not as depleted, allowing children to inherit more vitamin D, which prevented them from developing rickets in the early months of life. Many upper class mothers had multiple pregnancies; which may explain the higher incidence of rickets in higher status families in the eighteenth century. In contrast to rickets, scurvy was noted by Buchan to be, in some cases, 'an hereditary taint', but the parents were not blamed for the development of scurvy in the same manner as they were with rickets.[74] That parents were not always blamed for the occurrence of scurvy suggests that Buchan did not believe every illness to have been caused by bad parenting. Buchan therefore had an idea that other factors were important in the development of diseases.

In contrast to the theories put forward by Buchan and Armstrong on the roles of parents, diet, and humoral imbalance, Michael Underwood gave a simple description of rickets. He claimed that the rise in manufacturing was to blame for the increase of this disease, arguing that people left their villages to 'settle in large manufacturing towns; where they wanted that exercise and pure air, which they had enjoyed in their former situation, and employments'.[75] Underwood was the only one of the physicians discussed here to acknowledge that the rise of industrialisation may have had an impact upon the health of children, specifically with regards to rickets. In addition to industrialisation, Underwood made it clear that, whilst an important aspect in the rise of rickets in towns and cities, industrialisation was not the only cause of rickets.[76] Underwood agreed with Buchan that rickets could be caused by bad parents and a lack of exercise. Bad parenting, lack of exercise, and a bad diet could happen in rural areas, thus allowing rickets to develop in the countryside as well as in the towns and cities.

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[73] Giuffra et al, 'Rickets in a High Social Class of Renaissance Italy', p. 621; Fields, '"English Disease"', p. 126.
[74] Buchan, *Domestic Medicine*, 7th edn, p. 309.
[75] Underwood, *Treatise on the Diseases of Children*, p. 201.
[76] Ibid.

Diet was also linked with rickets and scurvy, although not in the way as it is today. In eighteenth-century England, a healthy diet was always thought to be an important way to stay healthy and to prevent disease. Armstrong took the opportunity to note that if a proper diet was followed from the birth of a child until the age of at least two years, then many diseases would be prevented.[77] In general, a healthy diet was the most important aspect of health in the eighteenth century, and Buchan outlined the best diet to be given to assist children in remaining healthy. Children, in the first two years of life, were to be fed by the mother or nurse, because children 'need very little food for some time after the birth, and what they receive should be thin, weak, light, and of a cooling quality'.[78] The diet Buchan suggested was in line with his beliefs on the non-naturals. When children were able to eat, generally after their teeth had erupted, they were to eat a mixture of animal and vegetable food. Too much vegetable foods and their stomach would sour. Too much animal meats 'heats the blood, and occasions fevers and other inflammatory diseases'.[79] Therefore, the key was moderation in all types of food, in order to keep the child healthy. For rickets, Buchan recommended a diet of dry but nourishing food, such as bread, and roasted animal flesh, such as rabbits, pigeons, veal or mutton.[80] For children that were too young to eat animal flesh, they were to be given rice, millet, or a pearl barley.[81] William Cullen believed that rickets occurred due to great acidity brought on by the consumption of milk and 'farinaceious foods', but he also acknowledged that many children were successfully treated for rickets with this type of diet.[82] Despite the fact that Farrer noted that fish could cause rickets, cod liver oil was brought into use in the later part of the eighteenth century.[83] At first, cod liver oil was rubbed into the limbs of the

[77] Armstrong, *Account of the Diseases Most Incident to Children*, pp. 126–7.
[78] Buchan, *Domestic Medicine*, 7th edn, p. 13.
[79] Ibid., p. 14.
[80] Ibid., p. 437.
[81] Ibid..
[82] The Works of William Cullen. Quoted by Drummond and Wilbraham, *Englishman's Food*, p. 272.
[83] Fields, '"English Disease"', p. 129.

patients, but by the end of the eighteenth century, cod liver oil was ingested by the patient, making it a dietary supplement that assisted in the treatment of rickets.[84]

In addition to the diet suggested by Buchan, Farrer noted that 'aqueous and mucous substances, crude summer fruits, [or] fish' were thought to bring on the rickets. Drummond and Wilbraham noted that William Forster had made a tenuous link between diet and the treatment or prevention of rickets, but made no further comments on the matter, therefore suggesting a clear but underdeveloped link between diet and rickets was perceived.[85]

Scurvy could also be treated with a good diet. Scorbutic conditions were rare when common garden vegetables and fruit were relatively cheap, as they were from the 1720s to the 1750s.[86] The rarity of scurvy during this period was not attributed to the readily availability of fruit and vegetables at the time. However, experiments were conducted in an attempt to develop a treatment for scurvy, although most were conducted on sailors rather than on children. William Clowes, writing in the sixteenth century, treated two sailors with scurvy and noted that the 'infection … was reputed principally unto their rotten and wholesome victuals, for they said their bread was musty and mouldy biscuit, their beer sharp and sour like vinegar, their water corrupt and stinking'.[87] Clowes noted that, in addition, they had a lack of 'convenient exercise, clean keeping and shift of apparel, and again, being in an ill-disposed climate, and want of good air, these causes and suchlike were the only means they fell into the scurvy'.[88] These recommendations emphasised two of the non-naturals, air and exercise, as well as cleanliness, in a similar way to recommended treatments for other diseases. Scurvy grass was used as a treatment

[84] Drummond and Wilbraham, *Englishman's Food*, p. 275.
[85] Farrer, *Particular Account of the Rickets in Children*, p. 5.
[86] Drummond and Wilbraham, *Englishman's Food*, p. 259.
[87] William Clowes, *Selected Writings of William Clowes, 1544-1604*, ed. by F.N.L. Poynter (London: Harvey & Blythe, 1948), p. 119.
[88] Ibid.

in these experiments, and the name suggests that scurvy grass was at least partly successful. Dr Thomas Trotter wrote that 'a deficiency of recent vegetable matter alone [was] the occasional cause of scurvy', indicating that he believed diet had an impact upon the prevalence of scurvy on land. He believed that a shortage of vegetables, either in the winter or during famine or crop failures would cause scurvy, and thought that bad winters exacerbated the condition.[89] When experiments were conducted on sailors by James Lind, scurvy was called 'the scourge of Europe'.[90]

The importance of fever in cases of both rickets and scurvy that been neglected in previous work. Both rickets and scurvy were related to hectic fever. The hectic fever was dangerous enough and 'carries off numbers of them [children], if it is not properly treated'.[91]Armstrong noted that this type of fever was most incident to 'children of a costive habit of body, and … the most natural way of treating it is by repeated gentle purges, adapted to the age, strength, and constitution of the infant, till the fever is carried off'.[92] Armstrong was unsure as to whether the rickets caused the fever or the fever caused the rickets. He noted that the fever and weakness of organs 'may either be a cause or the effect of the rickets'.[93] Armstrong was not the only one to mention a fever with rickets, as Farrer noted a slow fever which presented along with a cough and breathing difficulties. Farrer only noted these symptoms when the child died, so the fever was not seen as an associated condition that could be treated alongside the rickets.[94]

Teething, although not a direct cause of either rickets or scurvy, was associated with the development of other diseases. The diet of the child changed during teething and

[89] Thomas Trotter, *Observations on the Scurvy* (Edinburgh: Printed for Charles Elliott, 1786), pp. 40, 171–2.
[90] James Lind, *A Treatise of the Scurvy, in Three Parts* (Edinburgh: A. Kincaid & A. Donaldson, 1753), p. vi.
[91] Armstrong, *Account of Diseases Most Incident to Children*, p. 68.
[92] Ibid.
[93] Ibid., p. 119.
[94] Farrer, *Particular Account of the Rickets in Children*, p. 11.

weaning, which often led to rickets. Elizabeth Lomax has argued that scurvy was often misdiagnosed as teething. However, this does not hold true for the sources examined here.[95] Cadogan claimed that children who died from teething did so because of the 'effect of too great a fullness, or the corrupt humours of the body put into agitation by the stimulating pain the tooth causes in breaking its way out'.[96] Armstrong also noted the dangers of teething for children, as did Cadogan, and yet Cadogan claimed that 'teething, of itself, is not properly a disease; because though many children die while they are breeding and cutting their teeth, yet there are several who breed and cut them without any bad symptom'.[97] The dangers Armstrong listed, partially taken from his analysis of Cadogan, were that a great fullness could occur, and a corruption of the humours was put into agitation by the 'stimulating pain the tooth causes in breaking its way out'.[98] Teething was described separately from scurvy in medical treatises, suggesting that Lomax's argument was incorrect. Most cases of teething were teething, rather than scurvy.

6.3: Treatment of rickets and scurvy

The remedies for both rickets and scurvy show few signs of standardisation, although there was a strong acknowledgement that diet, exercise and parenting were important aspects of the treatment. Physicians used more exotic ingredients in their remedies, such as Peruvian Bark, something which was rarely found in domestic receipt books. In the treatment for scurvy, scurvy grass was an ingredient which was included in both the professional medical texts and domestic receipt books. In addition to being an important part of the theories about the causes of rickets and scurvy, diet was an important aspect of any regimen that was prescribed for those who suffered from the two conditions.

[95] Lomax, 'Difficulties in Diagnosing Infantile Scurvy'.
[96] Cadogan, *Essay Upon Nursing*, p. 37.
[97] Armstrong, *Account of Diseases Most Incident to Children*, p. 62.
[98] Ibid., p. 68.

Fresh air was also an important element of preventing and treating conditions such as rickets and scurvy during the eighteenth century, as it had been earlier in the early modern period.

6.3.1: Treatments of rickets

Authors suggested a variety of treatments for rickets which mainly involved a regimen, which sought to rebalance the body by rebalancing the non-naturals.[99] Buchan detailed a regimen that was based on the non-naturals and included elements of diet, age, air, and exercise, as well as medicines to treat the condition. In addition to strengthening, open air, exercise, and a good nurse, Buchan advised that a child should be kept warm in cold weather, and cool in warm weather, as 'sweating is apt to weaken it [the child]'.[100] Buchan also advised that 'if the child has a bad nurse, this needs to be changed'.[101] Buchan's advice is a further example of his recognition of the importance of the roles of parents and nurses in the prevention and treatment of childhood illnesses. The non-naturals were an important aspect of treatment for both rickets and scurvy, as they were for almost every other condition present in the early modern period.

George Armstrong advised a diet consisting of panada bread and milk with some castile soap, dissolved in milk and sweetened with sugar, plain bread or rice pudding.[102] He advised against the consumption of animal food. In addition to this diet, if the child was still being nursed, Armstrong advocated a healthy but restrictive diet for the nurse, related to his belief that rickets could be transferred from nurse to child. The diet of the

[99] Cavallo and Storey, *Healthy Living*, p. 6.
[100] Buchan, *Domestic Medicine*, 7th edn, p. 437.
[101] Ibid.
[102] Armstrong, *Account of the Diseases Most Incident to Children*, p. 73.

nurse was to consist of as little animal food as possible, and to include foods like plain puddings, greens, carrots, turnips, and potatoes.[103]

Underwood's treatment for rickets included the 'bracing and strengthening' of the bones that were affected by the condition.[104] He also argued for the importance of diet in the treatment of children who suffered from rickets. Underwood advised the diet be 'suited to the age' of the child, and that older children should eat good bread, dry food, and roasted meats rather than boiled meats, and should drink port wine.[105] For children who were too young to eat 'flesh meats', Underwood advised a diet which included plenty of rice, millet, pearl-barley, salep and semolina with spices. If the child was feverish the spices were not to be given, as spices were known to increase the fever.[106] This recommendation was almost entirely the same as that made by Buchan in his *Domestic Medicine*.[107] Underwood also followed in Buchan's footsteps by recommending that the child be well nursed and afforded plenty of opportunities for exercise and fresh air. The child was not to be kept too hot or too cold. Underwood finally noted that 'without a very strict attention to these, medicine can be of little service'.[108] Although he wrote some thirty years after Buchan, Underwood clearly believed that the best treatment for children who suffered from rickets involved a focus on the non-naturals.

John Peachey, writing in 1679, discussed a fever alongside rickets, but only briefly, as did Buchan and Underwood.[109] However, in contrast to these views, Armstrong focused on the accompanying fever when treating rickets, rather than on the diet of the patient. He was unsure whether the fever caused the rickets or the rickets caused the fever,

[103] Ibid.
[104] Underwood, *Treatise on the Diseases of Children*, p. 202.
[105] Ibid.
[106] Ibid.
[107] Buchan, *Domestic Medicine*, 7th edn, pp. 437-8. Underwood's recommended diet added only salep and semolina to Buchan's original advice.
[108] Underwood, *Treatise on the Diseases of Children*, pp. 202–3.
[109] Peachey, *General Treatise of the Diseases of Infants and Children*, p. 155.

but he felt that once the fever was cured, 'the child for the most part will gather strength, without the help of corroborating medicines, provided the diet before recommended … be strictly adhered to, he be kept in a dry air, laid in an airy room, and on a hard mattress instead of a feather bed'.[110] Peachey observed that a fever accompanied teething when a child suffered from rickets, and argued that the fever and teething, in conjunction with the rickets, would cause problems with the teeth.[111]

John Wesley, in his *Primitive Physick*, advocated cold baths as a treatment for rickets.[112] Although Wesley did not explain why he suggested this type of treatment, the cold bath was thought to have been a strengthening treatment, and as rickets was a condition that softened the bones, cold bathing was thought to be a good way of strengthening the bones. Wesley suggested that children be bathed in a cold bath every day, whilst Armstrong suggested a cold bath only 'once in two or three mornings, and great attention must be paid to the manner of its agreeing with him'.[113] Armstrong advised that during a cold bath, the body must be kept open, and that the child had to be monitored carefully, as some children 'are so afraid of the cold baths that it throws them into fits'.[114] Buchan agreed that 'some rickety children cannot bear it [cold baths]', and thus it should only be used if the child could tolerate it.[115] Buchan also advocated a cold bath, particularly in the morning. He advised that, after the cold bath, the child should be 'well rubbed with a dry cloth immediately after he comes out of it. If the child should be weakened by the cold bath, it must be discontinued'.[116] The importance of drying the child and warming them up after the cold bath was emphasised by Buchan, as too much cold and wet could cause a worsening of rickets, or a development of a new condition.

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[110] Armstrong, *Account of the Diseases Most Incident to Children*, p. 126.
[111] Peachey, *General Treatise of the Diseases of Infants and Children*, p. 155.
[112] Wesley, *Primitive Physick*, 5th edn, p. 91.
[113] Armstrong, *Account of the Diseases Most Incident to Children*, p. 122.
[114] Ibid., p. 123.
[115] Buchan, *Domestic Medicine*, 7th edn, p. 438.
[116] Ibid.

Therefore, the treatment of children who suffered from rickets using cold baths was only advised if it was not going to harm the child any more than rickets.

For rickets, Buchan noted that 'the want of free air is likewise very hurtful to children', but in addition to this lack of free air, the lack of air that is available to the nurse was also considered a danger to children.[117] Cold, damp and confined air were the enemy of nurses, parents, and children alike in the fight against rickets, and Buchan even called the nurse who refused to take her child into the fresh air 'indolent'. His suggestion of treatment with regards to fresh air was that the patient be placed in the 'open, dry, air'.[118] Air had different qualities in the early modern period, and the type of air that caused a disease and the type of air that was used as treatment were very specific. Humid, or wet air, softened and dampened the body, so warm, dry air was recommended as a remedy for rickets.[119]

Physicians used more sophisticated remedies than those included in domestic receipt books, and their remedies used ingredients such as Peruvian Bark. Peruvian Bark was a particular favourite of Buchan, and Armstrong also advised it for rickets. Armstrong advocated a 'light decoction or infusion of the bark, given to the quantity of one, two, three or more spoonfuls, mixed with a little syrup of orange peel … two or three times a day'.[120] But Armstrong advised that caution be taken with this remedy, although no mention of any side-effects were made. Buchan likewise advised the use of Peruvian bark, mixed with wine or ale, but he pointed out that it was often difficult to get children to take this remedy.[121] Buchan claimed that alternative remedies were available, but that 'medicines are here of little avail. The disease may often be cured by the nurse, but seldom

[117] Ibid., p. 436.
[118] Ibid., p. 437.
[119] Cavallo and Storey, *Healthy Living*, p. 71.
[120] Armstrong, *Account of the Diseases Most Incident to Children*, p. 123.
[121] Buchan, *Domestic Medicine*, 7th edn, p. 438.

by the physician … [we] recommend a proper regimen as the thing chiefly to be depended on'.[122]

Some physicians, such as William Farrer, made up their own remedies for conditions such as rickets. Farrer suggested that his remedy for rickets was an

> Admirable attenuant, and deobstudent, of so active and subtle a nature, that it pervades the smallest vessels, and penetrates into the remotest and most imperceptible circulation, through the very stamina of the solids, the nerves, the tendons, and even the substance of the bones themselves: in short, it answers every intention of cure that can be expected, from the power of medicine.[123]

Farrer's statement was impressive, but he did not keep records of how many children were cured by his secret remedy. Farrer had three main steps in his treatment for children with rickets. First, he suggested to 'favour the action of the digestive organs, and to diminish the quantity of the acids, retained in the stomach'.[124] Second, the bad quality of the lympha needed to be changed. Finally, obstructions of the glands needed to be moved, and the 'superabundant humours' needed to be evacuated, as these 'stagnate in the bones'.[125] Farrer suggested that emetics, purgatives and absorbents all addressed these needs. But he suggested that using a softer medicine, one that was 'more adapted to the delicacy of that tender age, to which this disease is incident' would be better for the child.[126] He suggested a simple medicine, such as the tincture or rhubarb, or the decoctions of bitter and nitrous plants, and neutral salts, assisted, as always, by a proper regimen.[127] The exact remedy that Farrer used was not explicitly mentioned in his tract on rickets, but he suggested that traditional treatments for rickets could only help so much. He kept the exact preparation a secret from the world 'to prevent arguments, mistakes or malice'.[128] Farrer was promoting his own patent medicine here. The existence of patent

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[122] Ibid.
[123] Farrer, *Particular Account of the Rickets in Children*, p. 50.
[124] Ibid., p. 47.
[125] Ibid.
[126] Ibid., p. 48.
[127] Ibid., pp. 48–9.
[128] Ibid., pp. 64–5.

medicines is evidence of a demand from parents and carers for reliable treatments for rickets.

6.3.2: The treatment of scurvy

The treatment for scurvy brings the discussion back to the importance of diet in medical remedies. In the case of scurvy, some physicians noted that fresh fruit and vegetables were the best form of diet for the patient to follow. Buchan claimed that 'we know no method of curing this disease but by pursuing a course directly opposite to that which brings it on'.[129] He then advised, for those who have had a long diet of salty provisions that the 'proper medicine is a diet consisting chiefly of fresh vegetables, as oranges, apples, lemons, limes, tamarinds, water-cress, scurvy-grass, brook lime, &c.'.[130] When fresh vegetables were not available, he wrote, pickled or preserved vegetables were acceptable. The use of scurvy grass as a treatment for scurvy was noted also by Culpeper.[131] His description indicated that scurvy grass was a native grown plant, and was widely available, particularly on the river Thames.[132] Scurvy grass, or cochlearia, is known today to be a plant rich in vitamin C that was often used to treat patients with scurvy. Clearly, it was a treatment for the scurvy that was known to be reliable by the seventeenth century. Scurvy grass was first mentioned in Gerald's Herball in 1597.[133] Culpeper recommended that Dutch scurvy grass was a better treatment than English scurvy grass, if it could be had.[134] Wesley also recommended the use of scurvy grass and oranges in his treatment for scurvy, although oranges were placed ninth in a list of eleven suggestions, indicating that Wesley thought other ingredients were more useful.

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[129] Buchan, *Domestic Medicine*, 7th edn, p. 309.
[130] Ibid., p. 310.
[131] Culpeper, *Culpeper's Complete Herbal*, p. 238.
[132] Ibid.
[133] 'Scurvy-Grass', *Oxford English Dictionary Online* (Oxford: Oxford University Press, 2016) <http://www.oed.com/viewdictionaryentry/Entry/173952> [accessed 6 February 2017].
[134] Culpeper, *Culpeper's Complete Herbal*, p. 239.

Watercress was also recommended as a cure for scurvy by Buchan, Wesley and Culpeper. Culpeper explained that watercress was helpful in treating scurvy because it was a herb that was under the influence of the moon.[135] Wesley noted that water and garden cress, mixed with mustard and juice of scurvy-grass 'help in a cold scurvy', thereby advocating a compound remedy.[136] For Wesley, a cold scurvy was scurvy that was attended with looseness, whilst a hot scurvy was a costive scurvy.[137] Buchan described watercress in his list that included oranges, apples and lemons, and the format of his list suggests that each ingredient could be consumed individually to good effect.[138]

Other treatments addressed the idea that scurvy was an acidic disease. Both Buchan and Wesley suggested a milk-diet was beneficial for scurvy sufferers. Wesley suggested living on a milk-diet for six months would cure the condition, but Buchan stopped short of suggesting such a long time living on milk.[139] Buchan suggested that a milk-diet was a 'preparation of nature', which was 'fit for restoring a decayed constitution, and removing that particular acrimony of the humours, which seems to constitute the very essence of the scurvy and many other diseases'.[140] Wort, an ingredient often used in compound medicines, was also suggested by Buchan. It had the ability to be used and preserved for long periods of time, making it a good choice for sailors as well as those who suffered from what he termed 'land-based' scurvy.[141]

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[135] Ibid., p. 82.
[136] Wesley, *Primitive Physick*, 5th edn, p. 95.
[137] John Wesley, *Rev. John Wesley's Valuable Primitive Remedies, or, An Easy and Natural Method of Curing Most Diseases* (Chicago, IL: O.W. Gordon, 1880), pp. 106–7.
[138] Buchan, *Domestic Medicine*, 7th edn, p. 310.
[139] Wesley, *Primitive Physick*, 5th edn, p. 95; Buchan, *Domestic Medicine*, 7th edn, p. 311.
[140] Buchan, *Domestic Medicine*, 7th edn, p. 311.
[141] Ibid.

6.4: Rickets and scurvy in domestic receipt books

Remedies for rickets in domestic receipt books were similar to each other, and many resembled the treatments advocated by physicians. Similarities indicate a perception of the efficacy of domestic receipts. Three of the domestic medical texts examined here had remedies for rickets with similar ingredients, as shown in table 6.2.[142] In addition to remedies which were ingested, the receipt books contain recipes for an ointment for a child's painful joints when they suffered from rickets. 'A Book of Useful Receipts for Cookery, etc.' recommended, in addition to the ointment, that a child be bled, and given a drink of which scurvy grass was an ingredient.[143] The ointment indicated how

Ingredients	*A Book of Receits* (1725)	*A Book of Phisick* (1710)	*A Book of Useful Receipts* (1692)
Egrimony	√	√	√
Figs	√	√	√
Liquorice	√	√	√
Hartshorn	√	√	√
Dates	√	√	√
Raisins	√	√	√
Aniseed	√	√	√
Scurvy grass	√		√
Brook lime water	√		
Inward bark of ash	√		
Inward bark of ivy	√		
Figs	√		
Oyle of swallows			√
Oyle of carmiole			√
Bleeding			√

Table 6.2 List of ingredients for the treatment of rickets

[142] Wellcome Library, MS.1321, Book of Receits, p. 82; MS.1320, Book of Phisick, p. 92; MS.2323, Eyton, Amy (& others), 1738, p. 108.
[143] Wellcome Library, MS.1325, A booke of usefull receipts for cookery, etc., 1692, p. 244.

painful the condition must have been, and highlights the conclusion that rickets was treated both internally and externally.

Domestic medicine texts had remedies that shared some ingredients with Buchan, Wesley and Culpeper. Of the five texts that were examined for scurvy remedies, three of them suggested the use of scurvy grass in some way. Joan and John Gibson, writing in 1717, advised that 'scorby grasse' should be stamped and put into a little beer to be strained.[144] It was to be boiled with half a pint of milk and after it had boiled, white wine vinegar was to be added. Two spoonfuls of juice were then to be added, but not allowed to boil, and the mixture was to be drank warm, with one half in the morning and the other half late at night. This remedy was suggested to last ten or twenty days, depending on the severity of the condition.[145] Mrs Hirst wrote that 'sea scurvy grass' should be mixed with horseradish roots, fennel roots, parsley roots and wormwood along with cinnamon, nutmeg, cloves and mace. The ingredients were to be placed with oranges stuck with cloves in five gallons of strong ale.[146] Oranges were mentioned in two of the remedies, with the remedy from Mrs Hirst and others, along with a remedy from a book written by an anonymous individual, *A 17th and 18th Century Medical Book*.[147] Lemons were also present in this remedy. Ale was present in all five of the remedies, and was used as a liquid which allowed infusion of the herbs and ingredients present. Scurvy grass, oranges, and lemons were often amongst the ingredients used by Buchan, Wesley and Culpeper.[148] The inclusion of remedies for rickets and scurvy demonstrates that they were addressed by domestic medicine during the eighteenth century. Despite the lack of specific tracts on rickets, it was a known condition in the eighteenth century, and those who suffered from it received treatment.

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[144] Wellcome Library, MS.311, Joan and John Gibson: medical recipe book, 1717, p. 29.
[145] Ibid., p. 30.
[146] Wellcome Library, MS.2840, Hirst, p. 33.
[147] Wellcome Library, MS.1796, Cookery-book, 17th / 18th century, 1725, p. 109.
[148] Roberts and Manchester, *Archaeology of Disease*, p. 235.

6.5: Treatment or cure

Successful treatment of rickets did not always mean that a cure had taken place, but, during the eighteenth century, the language of 'cure' was used. Farrer claimed that rickets was most dangerous in infancy and that most rickety children were not cured until they were around five or six years of age. The language of 'cure' is difficult to interpret. Three areas were thought to combine to help a patient recover from illness – God, the physician, and nature.[149] Although none of the physicians' texts or domestic receipt books mention God, physicians and nature feature frequently. The non-naturals are also prominent. According to Newton, Galen defined recovery as 'the away-taking of disease, followed by the restoration of strength'.[150] With regards to rickets, the taking away of the disease and the restoration of strength would likely have related to the crookedness of the legs. A patient could regain strength more easily if the legs were not crooked. Patients who had not recovered by the age of five or six years of age were likely to have been deformed for the rest of their lives and to have experienced continued weakness rather than a 'cure'. Farrer's idea of recovery, or cure, was to straighten and strengthen the bones, whether the disease had been banished from the body or not.[151] Farrer also identified the problems of uncured rickets, particularly in girls, claiming that 'girls, whose bones have been knotted 'till they are eight or nine years of age, have commonly the cavity of the *Pelvis* very straight. Now, we know how difficult and laborious a delivery is to women who are thus formed'.[152] Even if cured of rickets by the age of nine years old, female children were known to suffer throughout their lives with the after-effects of rickets, particularly during childbearing and childbirth. The effects in turn, had the

[149] Newton, '"Nature Concocts & Expels"', p. 466.
[150] Galen. Quoted in Newton, '"Nature Concocts & Expels"', p. 467.
[151] Farrer, *Particular Account of the Rickets in Children*, p. 45.
[152] Ibid., pp. 45–6.

potential to lead to the death of the mother and child either before or during childbirth, if an affected woman became pregnant.[153]

Crookedness of the bones, particularly the long bones, was a lasting effect of rickets, as was a deformation of the chest cavity. Crookedness and deformity limited the stature of affected individuals into adulthood, and may have prevented them from walking properly and from being unable to undertake active work as an adult. The level of disability was not classed as a cure during the eighteenth century. Therefore attempts to treat this condition were of great importance, in order to make children valuable and productive members of society.

A cure for scurvy was less clear cut, because the after-effects of scurvy are less clear. In skeletal populations, scurvy is diagnosed by new bone formation on skeletons particularly within the eye sockets, and in other areas of the skull.[154] However, these effects on the skeleton are also indicative of many other conditions, and therefore cannot be completely relied upon as evidence for scurvy.[155] We have limited evidence for the side effects of scurvy on individuals who survived the condition. The connection between scurvy and leprosy by both Buchan and the Newcastle Dispensary suggests that the condition may have had a lasting impact on the soft tissues of the face. During the eighteenth century, it is likely that the symptoms physicians may have deemed a patient to be cured if they no longer displayed the symptoms of scurvy, particularly if the patient's gums had healed.

[153] Roberts and Cox, *Health and Disease in Britain*, p. 309.
[154] Roberts and Manchester, *Archaeology of Disease*, p. 235.
[155] Ibid.

6.6: Conclusion

During the eighteenth century, rickets was a recognised condition that was specific to childhood, whereas, scurvy, whilst also recognised, was not a disease of childhood, although children could and did suffer from scurvy. Both rickets and scurvy are vitamin deficiencies, but were not understood as such in the eighteenth century. The age at which rickets developed in children was between nine months and two years, and if the child had not recovered by the age of around six, treatment was believed to have failed. An age limit was therefore placed on the possibility of a 'cure' for rickets. The types of treatment suggested for rickets differed between the domestic and professional spheres, with air, diet, and cold baths being recommended by physicians alongside medicines whereas domestic receipt books focused on these medicines. The medicines and treatments suggested by the physicians were relatively sophisticated, and may have been expensive for families to buy. Domestic receipt books and physicians may also have served different purposes in eighteenth-century society.

Efforts were made to treat rickets and scurvy. The non-naturals, and regimen played an important role in the prevention and treatment of many medical conditions in the early modern period, including rickets and scurvy. Diet was particularly important in the treatment of both rickets and scurvy. The use of scurvy grass to treat scurvy indicates that a recognition that diet may have contributed to the development of scurvy. Fresh air, warmth and dryness were also being advocated by the physicians during the eighteenth century.

Although rickets was not a condition that caused a high number of deaths, it was a condition that could cause permanent disfigurement in the limbs, particularly bowed legs. Rickets could also cause problems for girls if they became pregnant later in life. Therefore, it was in the interests of the child to treat and attempt to cure the condition, even if a cure did not mean a cure in today's terms. The bones needed to be strengthened

and straightened in order for a treatment to have been considered successful. Few children presented with rickets or scurvy at the Foundling Hospital, dispensaries or the workhouses during the eighteenth century, indicating that children may have been healthier than previously thought. It is highly unlikely that scurvy was misdiagnosed teething since the physicians and domestic receipt books alike had different medicines and symptoms linked to teething and scurvy.

This study has found that the constitution and health of parents and nurses were important considerations in understandings of causation and treatments for scurvy and especially rickets. This factor has previously been overlooked. A weak parent or nurse was believed to lead to a weak child, susceptible to various diseases, including rickets and scurvy. Therefore, in addition to regulating and maintaining the health of sick children, physicians also advocated the importance of the health of the parents and nurses through the use of a regimen. The non-naturals, especially diet and air, once again considered to be closely intertwined with the cleanliness of both children and their carers was another prominent consideration.

Unlike other diseases of this period, including scurvy, rickets was never the subject of any experimentation. Most experiments relating to scurvy, moreover, were undertaken on sailors rather than those who suffered with scurvy on land. For children, change came instead in the use of new ingredients like Peruvian Bark by physicians.

Conclusion

This thesis has examined the care of sick children in eighteenth-century England. This study focused on a number of the most common diseases that children suffered from during the eighteenth century, in order to investigate the ways in which sick children were cared for in domestic and institutional settings. Children suffered from a multitude of conditions, ranging from the minor to the life-threatening. Many of the diseases from which children suffered also had the ability to affect adults, but diseases that an individual could only catch once, such as smallpox and whooping cough, were generally considered to be diseases of childhood during this period. Only a few diseases, such as rickets, affected children exclusively at this time.

Children were conceptualised as different from adults in a number of ways, and were thus thought to have different medical needs and to require different medical remedies. My study has established that size and constitution, rather than age or gender, were the main concerns of the physicians who treated children during the eighteenth century. The difference between the size of children's and adults' bodies led to differences in the treatments recommended as suitable to be administered to a child. This study has shown that the authors of medical texts paid relatively little consideration to teenage bodies, showing that puberty, unlike childhood, was not seen as a distinct phase in the lifecycle during the eighteenth century.

Children were conceptualised as different from adults in terms of their soul and character, however. Contemporary opinion linked children's health to the health and, more importantly, to the morality of their carers. This study has revealed that both parents and nurses were subject to physical and moral scrutiny during this period, and parents or nurses were often blamed for the ill-health of the children under their care. Sick mothers were perceived to produce sick children. It was also believed that the mother or wet-nurse

could transmit disease or confer a poor constitution upon a child by the simple act of breast-feeding. Writers advocated the importance of a good, healthy regimen for the provider of breast milk. Children were viewed as innocent and considered to be among the deserving poor, so children were provided with care regardless of the perceived moral failings of their parent or carer.

The central finding of my thesis is that the care of sick children predominantly took place within the home throughout the eighteenth century. Medical care featured prominently within the pages of a range of texts that were written to assist with the care of the family. Many of these texts were written by women with a female readership in mind, because it was women who undertook the majority of the care within the home. Texts such as Kettilby's *A Collection of above Three Hundred Receipts in Cookery, Physick and Surgery* highlight the close relationship between cookery and physic during this period. The close relationship between food and medicine was further demonstrated by the books' inclusion of receipts comprising easily accessible ingredients, largely available from the garden, as well as clear, simple instructions on how to produce the recommended remedies. These texts were designed to assist women in their duties as principal providers of care within the home.

The location of care in the home contributed to the continuing importance of parents in the provision of care. My thesis thereby extends Hannah Newton's argument for the significance of parental care in the seventeenth century to the eighteenth century.[1] Within the home, care was mainly provided by mothers or other female relatives, although fathers, nurses and other female carers also contributed.[2] As Rankin has argued, women were expected to have some knowledge of medicine in order both to keep the family

[1] Newton, *Sick Child*, p. 224.
[2] Ibid.

healthy and to minimise expense on physicians and apothecaries fees.[3] Mortimer has argued that the bulk of the nursing care was provided by family or household members, so such payments were rare.[4] However, Mortimer also argued that women were often paid to nurse those who were not part of their family.[5] Nurses also undertook day-to-day care and administered medicines in hospitals and workhouses. Brownrigg and Hey recorded the name of a child's father in their casebooks, which demonstrates the involvement of the father in the care of sick children within the home. Male physicians provided medical diagnoses and prescribed medicines for children both in domestic and institutional settings, but women retained the principal responsibility for the care of the sick in both contexts.

Some institutions opened in the eighteenth century which offered care to sick children, but these complemented rather than replaced domestic care. The establishment of the Foundling Hospital in 1741, and dispensaries such as George Armstrong's Dispensary for the Infant Poor in 1769, Bamburgh Castle Dispensary in 1772, and the Newcastle Dispensary in 1777, have predominated in the existing literature on eighteenth-century child health. Alysa Levene and Ashley Mathisen's focus on institutional care in this period has drawn attention away from the domestic setting, even though the home remained the primary site for children's medical care throughout the century. Levene drew upon evidence from the Foundling Hospital to examine 'institutional practices, and how medical practitioners tried to meet the challenge of infant care' between 1741 and 1800.[6] Certainly some children were treated in an institutional context. A small number of children were treated within voluntary infirmaries, but these were in the minority as local rules frequently barred children from admission. Older children were often treated

[3] Rankin, *Panaceia's Daughters*, p. 11.
[4] Mortimer, *Dying and the Doctors*, p. 141.
[5] Mortimer, *Dying and the Doctors*, p. 141; Rankin, *Panaceia's Daughters*, p. 10.
[6] Levene, *Childhood, Health and Mortality*, p. 1.

at the Foundling Hospital or workhouse. My research on eighteenth-century institutions, nonetheless, shows that the domestic setting remained highly relevant here. The emergency of the dispensary movement in the later eighteenth century provided a gateway for institutional medicine to enter the domestic sphere. Dispensaries provided families with an out-patient style of care for their children. The sick child was able to access physicians for professional diagnoses and prescriptions, but the treatment and care of the child was still undertaken within the home.

As institutions emerged, children's medicine became a more popular area of study for medical practitioners in the latter half of the eighteenth century. Many texts were published on childhood health and illness in the 1770s. Remedies for many of the diseases discussed within this thesis, such as smallpox, whooping cough, scarlet fever and skin conditions, were particularly common in the books and treatises which appeared in the wake of Buchan's *Domestic Medicine*. Cadogan's earlier work may have stimulated this interest in children's health. Cadogan highlighted the need to prevent childhood deaths to the medical world, and sparked an interest in childhood diseases. The increase in literature about specific childhood diseases from the 1770s was linked to large outbreaks of these diseases. Scarlet fever epidemics in places like Birmingham and Newcastle inspired medical practitioners to publish on a disease that hitherto had only been mentioned in general medical treatises.

My thesis has highlighted gendered labour within and beyond the emerging institutions of the eighteenth century. Male physicians offered diagnoses, prescribed medicines, and conducted medical trials. Female nurses provided care which included cleaning, washing, cooking and the administering of medicines. In addition to nurses within the institutions, nurses were employed by institutions such as the Foundling Hospital and metropolitan workhouses to care for children within their homes. Younger

children were thereby placed ‘at nurse’, and provided with a type of foster care under the supervision and inspection of the institution.

This thesis has argued that the use of children in experiments in institutions was an important step in the development of treatments tailored to children’s bodies. But the development of children’s medicine in the eighteenth century was problematic and confused, rather than systematic. Medical trials were undertaken on an *ad hoc* basis when enough children were available, when a new remedy had been developed, or when a dangerous disease was present. Further analysis of these experiments is required in order to fully explain the move away from Newton’s concept of a seventeenth-century ‘children’s physic’ to the emergence of paediatrics as a medical specialism in the nineteenth century. We need to examine the influence of the environment on the ways in which physicians thought, and how this inspired the experiments they performed.

Physicians showed some concern over the safety of medical experiments and the wellbeing of the children involved. John Coakley Lettsom, for example, expressed his disquiet about George Armstrong’s use of hemlock in his whooping cough experiments. Yet Armstrong continued to conduct his experiments, and an examination of his published work suggests that the hemlock did not prove to be as dangerous as his detractors feared. Lettsom’s criticisms demonstrate that the publication of findings provided an opportunity for other physicians to review and comment on experiments, whilst a degree of oversight was established over the experiments that took place at the Foundling Hospital. The anxieties raised about the medicines and methods used by physicians show concern for the children involved in the treatments, and show that the seeds of child welfare were planted during the eighteenth century.

The range of different remedies for each condition exemplifies the limited standardisation of care in eighteenth-century England. Some medical trials aspired to identify a preferential treatment for a particular condition, but physicians were

unsuccessful in this aim. The one aspect of standardisation that can be found in the care of sick children in the eighteenth century is in the regimen that was recommended for children to sit alongside their medical care. The regimen centred on the six non-naturals, with the most important of these being diet, air, exercise and sleep. A regimen was recommended for every day consumption as a way of maintaining health, and was also central to the restoration of health, and to helping patients through a myriad of remedies that were designed to cure their illnesses. The main features of the recommended regimen were moderation and balance. A balance was required to keep the non-naturals, and the humours, healthy. Too much of anything, be that diet, air, exercise or sleep could tip the balance and lead to illness.

This thesis has discovered that cleanliness was noted by some physicians as being an important aspect of regimen in addition to the non-naturals. However, cleanliness was not linked with moderation. Buchan believed, as did many others, that there was no excuse for a lack of cleanliness, and that disease was caused by matter that had not been carried off the skin.[7] Therefore, daily cleansing was perceived to prevent illness from establishing itself in the body and was a recommended part of the regimen alongside the non-naturals. The importance of a regimen alongside cleanliness cannot be overstated. The significance of these two aspects of care has largely been neglected in previous work on medical history, which has predominantly focused on treatment.

The care provided to the lower and middling classes has been prominent in this thesis. However, the care received by the children of the upper class may not have been substantially different. Like the children examined above, upper-class children also received care in a domestic setting, where they were often visited by physicians. The attendant physicians at infirmaries, workhouses and the Foundling Hospital engaged in

[7] Buchan, *Domestic Medicine*, 7th edn, p. 77.

private practice alongside their philanthropic work, and treated the upper classes for a fee. In addition, upper-class households were more likely to have the necessary money and literacy to own and use the domestic receipt books and physicians' medical treatises that have been discussed within this thesis. Differences in wealth affected treatments to a degree, because the upper class could afford exotic remedies such as Peruvian Bark, which was imported to England from the New World. Peruvian Bark was recommended extensively in Buchan's *Domestic Medicine*. Buchan's inclusion of alternatives to Peruvian Bark suggests that the ingredient may have been inaccessible to poorer members of society. Furthermore, Buchan's inclusion of different ingredients and further remedies underlines the diversity within childhood medicine across the eighteenth century.

Buchan's *Domestic Medicine* has been a key text throughout this study, as it was during the eighteenth century. Buchan's work encapsulates many of the themes that have been examined in this thesis. Buchan covered the majority of diseases suffered by adults and children alike, and emphasised the importance of a moderate regimen for patient and carer, an aspect of medical care that this research has found to have been vital in the maintenance and restoration of health. The variety and volume of remedies recorded by Buchan for each disease demonstrates the lack of standardisation in eighteenth-century medicine. For smallpox alone, Buchan recommended more than ten remedies for children of different stages within the diseases' cycle.[8] Furthermore, the constant revision of Buchan's work demonstrates that there was a clear appetite for medical texts in the eighteenth century, and his decision to include children's medicine shows that there was a clear desire to ensure that children were healthy. Buchan's work draws together the two strands of medical care that existed in the eighteenth century: domestic and institutional. As a physician who worked in the Ackworth branch of the Foundling Hospital, Buchan's text was founded in his professional experience, developed in the institution, and used in

[8] Ibid., pp. 173-9.

the home. Alongside Armstrong, Cadogan, Underwood and other medical practitioners studied in this thesis, Buchan showed a clear recognition that children required their own medicine and their own medical care. Ultimately, the groundwork of these eighteenth-century pioneers laid the foundations for the medical speciality of paediatrics in the nineteenth century.

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